

Table 1 - Lassen N.F. CALFED Ecosystem Restoration 10/10/00 Quarterly Report: Agreement # 1425-98-AA-20-16210

Project phase and task	CALFED Budgeted/ Approved Funding	Forest Service Contribution	Completion Schedule	CALFED Expenditures	Forest Service Expenditures	Invoiced /Billed	Remaining Balance	Percentage of Task Completed
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Task 1: Implement Erosion Control Measures at Known Sites

1a. Survey Site and Design	\$12,000	\$3,000	1998	\$12,000	\$3,000	\$12,000	\$0	100%
1b. NEPA process, ESA Consultation	\$15,000	\$6,000	1998-1999	\$15,000	\$6,000	\$15,000	\$0	100%
1c. Contract	\$5,000	\$2,000	1999	\$5,000	\$2,000	\$5,000	\$0	100%
1d. Project Implementation and Contract Admin.	\$80,000	\$8,000	1999-2000	\$80,000	\$182,000	\$40,000	\$0	100%
1e. Monitoring, Evaluation, and Reporting	\$3,000	\$1,000	1998-2000	\$2,000	\$1,500	\$1,500	\$1,000	65%

Task 1 Total	\$115,000	\$20,000		\$114,000	\$194,500	\$73,500	\$1,000	
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Task 2: Watershed Restoration Planning

2a. Update recent M.C.A. road/sediment study. Expand to Include Antelope Creek	\$45,000	\$8,000	1998	\$42,000	\$7,000	\$42,000	\$3,000	90%
2b. Coordination with co-op road managers, private landowners, counties	\$18,000	\$10,000	1998-2000	\$17,000	\$12,000	\$17,000	\$1,000	90%

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2c. Update NFS road system data- base for project area and build GIS files	\$12,000	\$2,000	1998	\$10,000	\$4,000	\$10,000	\$2,000	90%
2d. Prepare Road Management Plan for Deer, Mill, & Antelope	\$19,000	\$19,000	1998-1999	\$19,000	\$19,000	\$19,000	\$0	100%
2e. Resource evaluations, site survey, and design	\$156,000	\$10,000	1999-2000	\$87,800	\$11,500	\$57,500	\$68,200	55%
Task 2 Total	\$250,000	\$49,000		\$175,800	\$53,500	\$145,500	\$74,200	

Task 3: Complete Watershed Assessments

3a. Update land exchange assessments and identify acquisition opportunities	\$6,000	\$0	1998-1999	\$6,000	\$1,000	\$5,500	\$0	100%
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Task 3 Total	\$6,000	\$0		\$6,000	\$1,000	\$5,500	\$0	
PHASE I TOTAL	\$371,000	\$69,000		\$295,800	\$249,000	\$224,500	\$75,200	
Remaining CALFED Funds	\$75,200							

California Bay Delta Environmental Enhancement Act

Date of this report: October 17, 2000

Contract Number: 1425-98-AA-20-16230

CALFED Number:

Contract Agency: U.S. Bureau of Reclamation

Contractor: U.S. Geological Survey

Technical Contact: David Schoellhamer phone (916) 278-3126 FAX (916) 278-3071

Financial Contact: Alan Rankin phone (916) 278-3036 FAX (916) 278-3070

Project Title: Sedimentation in the Delta and Suisun Bay

Project Location: Sacramento-San Joaquin River Delta and Suisun Bay

Term of the Contract: Complete Date: June 30, 2001

Description of the Project:

To understand the availability and quantity of sediment movement through the Delta and Suisun Bay, sediment transport is being monitored at several sites. The two components of the sediment load we are evaluating are suspended load (fine sediments moving at the same speed as water) and bedload (sand moving at a slower rate along the bed). Suspended-sediment concentration is continuously measured with an optical backscatterance sensor. Bedload transport is estimated from bedform profiles by using the correspondence between transport rates and bedform geometry. Sediment discharge will then be calculated based on these measurements. The data will be analyzed to determine the variations in sediment transport that occur with seasonal changes in the watershed, flow magnitude, tidal cycles, and local fluctuations in sediment supply.

Fiscal reporting

Objective to be achieved:

The primary objective of this study is to describe the movement and availability of sediment needed for habitat restoration.

Listing of each task (by title) and percentage complete:

Delta site installation -- done
Suspended-sediment data collection in the Delta -- done
Suspended-sediment data collection in Suisun Bay -- done
Design database format for riverbed elevations -- done
Measure bedform profiles in lower Sacramento River -- done
Measure bedform profiles in lower San Joaquin River -- done
Measure bedform profiles in Three Mile Slough -- done
Create HTML document to present riverbed monitoring -- done
Interpretive reports -- 25%

Completion of milestones/tasks/deliverables:

Suspended-sediment concentration and load measurements --

Operation of sites at Carquinez, Mallard Island, Freeport, Rio Vista, Three Mile Slough, Stockton, Dutch Slough, and Jersey Point continued. The sites were serviced monthly.

A draft water year 1999 data report was written and has begun internal USGS review. The report contains SSC data from the Carquinez Bridge and Mallard Island sites that are supported by this study and other Bay sites supported by the U.S. Army Corps of Engineers San Francisco District as part of the Regional Monitoring Program. Data from the Delta sites will be included in the interpretive report. For water years 1998 and 1999, data from all Delta sites except Jersey Point has been processed.

Some project results were presented at the CALFED Science Conference.

Bed load measurement --

River velocity was mapped at the north entrance to Three Mile Slough on July 27, and at the south entrance on August 1 and August 24. The procedure required testing and first use of new Windows-based software for acquisition of ADCP data to portable computer with GPS navigation. Analysis of the velocity data required development of new grid interpolation and averaging methods for velocity ensembles. Results of the data analysis were presented to the Chief Hydrologist at USGS on Sept. 5, 2000 and at the CalFed Science Conference on Oct. 5, 2000.

In preparing for the velocity mapping, methods were improved for extracting velocity data from field records. The method involves application of Visual Basic macros to dozens of data files

simultaneously. This approach permits rapid reduction of mean velocity values at GPS positions from extensive raw files. This new level of analysis has also permitted re-examination of the accuracy of older velocity measurements made without GPS positioning.

Bathymetry at the south entrance to Three Mile Slough was mapped to meter-scale positions and centimeter-scale depths during the quarter to aid in understanding transport pathways of sediment throughout the tidal cycle. After presentation of the results at the CalFed Science Conference, several researchers mentioned the value of these findings to their work. A dredging supervisor with the Corps of Engineers stated that the results presented on transport pathways explained anomalies he had seen for many years in sand samples collected in the San Joaquin River.

In preparing the technical article, "Bedform mapping in the Sacramento River," methods were improved for portraying bedform surveys. Combined color and shade plots were prepared by exporting EPS files from Tecplot and editing as Photoshop files. Results were added to the technical article, to Powerpoint presentations, and to the USGS Web site, "Sedimentation in the Delta." The riverbed graphics are striking enough to have gained immediate interest following presentations.

Sediment concentration records at stations along the Sacramento River were analyzed in detail during the quarter. Some of the results were included in a technical paper presented by David Schoellhamer at the CalFed Science Conference, "Suspended sediment supply to the Delta from the Sacramento River."

Cross-sectional velocity measurements at Three Mile Slough near the USGS gaging station were compared with recorded UVM (ultrasonic velocity meter) measurements. The cross-sectional measurements were found to differ from the UVM measurements in one direction, which could cause errors in sediment-flux calculations. Corrections to the records were derived by USGS technicians.

Individual bed material samples collected by USGS for the period of record were analyzed. A program was written to compute the geometric mean diameter of individual samples from particle-size data in USGS databases. Bed-material sizes for the Sacramento River will be included in publications. Bedload was measured at Sacramento River at Garcia Bend for the period

Interpretive reports being written—

Bedform movement recorded by single-beam surveys in estuarine rivers, by R.L. Dinehart, to be submitted to Hydrological Processes (in USGS review and revision)

Bedform mapping in the Sacramento River, by R.L. Dinehart, for the Seventh Federal Interagency Sedimentation Conference, Reno, 2001 (article approved and camera-ready copy submitted to conference)

Continuous Monitoring of Suspended Sediment in Rivers with Optical Sensors, by Schoellhamer, D.H., Federal Interagency Sedimentation Conference, 2001 (article approved and camera-ready copy submitted to conference).

Sedimentation in the Sacramento-San Joaquin River Delta, California, by Dinehart, R.L., and Schoellhamer, D.H., USGS Fact Sheet (outlined).

Sedimentation in the Sacramento-San Joaquin River Delta, California, by Dinehart, R.L., and Schoellhamer, D.H., USGS Professional Paper (outlined and some introduction written).

Summary of suspended-solids concentration data, San Francisco Bay, California, water year 1999: U.S. Geological Survey Open File Report. (in USGS review).

Summary of suspended-solids concentration data, San Francisco Bay, California, water year 2000: U.S. Geological Survey Open File Report. (awaiting lab results).

Description of any contract or task order amendments or modifications:

The project end date has been extended from September 30, 2000, to June 30, 2001. This extension will allow us to complete reports and to include data from water year 2000 in the reports. Our funding arrived later than expected, which delayed the start of the project. This extension does not include data collection after September 2000. Our proposal to continue data collection after September 2000 has been approved as a medium priority project.

Problems encountered:

The Benicia Bridge monitoring site has been out of service longer than expected due to seismic retrofit work on the Bridge. SSC data are being collected at the Carquinez Bridge instead.

Description of benefits/objectives of project achieved:

The data collected to date show that sand waves are ubiquitous, that the riverbeds are subject to several meters of scour and fill in response to storm flows, and that bedload can indeed be estimated from bedform movement. Suspended load has not yet been calculated, pending final analysis of water samples and calibration of optical sensors. Preliminary sensor calibration data for the Delta sites were

reviewed in spring 1999 and the calibrations were found to be acceptable but more high concentration samples will be needed. The qualitative character of the sensor output, however, indicates that suspended-solids concentration in the Delta is less variable than in the Bay during summer.

Continuous data collected during the first flush in November and December 1998 indicate that sediment transport is episodic with pulses dissipating within days. The transition from riverine to estuarine dominance is also apparent within the Delta. Riverine pulses, spring tides, local resuspension, and wind-wave resuspension in Suisun Bay are all factors affecting suspended sediment transport. The first flush of the Yolo Bypass may be a large source of sediment to the western Delta and the Yolo Bypass alters the hydrodynamics of Cache Slough.

Other new findings are described in 3 abstracts that were published in the proceedings of the CALFED Science Conference.

Published reports:

Buchanan, P.A., and Ruhl, C.A., 2000, Summary of suspended-solids concentration data, San Francisco Bay, California, water year 1998: U.S. Geological Survey Open File Report 00-88, 41 p.

Dinehart, R.L., 2000, Bedform movement near Threemile Slough near San Joaquin River: Proceedings of the CALFED Science Conference, Sacramento, California, October 3-5, 2000, p. 52.

Dinehart, R.L., and Schoellhamer, D.H., 1999, Sedimentation in the Delta of the Sacramento and San Joaquin Rivers: Proceedings of the 4th biennial State of the Estuary Conference, San Francisco, Calif., March 17-19, 1999, p. 75.

Oltmann, R.N., Schoellhamer, D.H., and Dinehart, R.L., 1999, Sediment inflow to the Sacramento-San Joaquin Delta and the San Francisco Bay: Interagency Ecological Program newsletter, v. 12, no. 1, pp. 30-33

Ruhl, C.A., and Schoellhamer, D.H., Spatial and seasonal variability of suspended-sediment concentrations in Honker Bay, a shallow subembayment of San Francisco Bay: Proceedings of the CALFED Science Conference, Sacramento, California, October 3-5, 2000, p. 218.

Schoellhamer, D.H., and Dinehart, R.L., 2000, Suspended-sediment supply to the Delta from the Sacramento River: Proceedings of the CALFED Science Conference, Sacramento, California, October 3-5, 2000, p. 124.

The project is described in more detail at <http://water.wr.usgs.gov/program/sfbay/calfedsed/> . A list of additional publications by the USGS San Francisco Bay and Delta Sediment Transport Project is available at <http://water.wr.usgs.gov/abstract/sfbay/sfbaycontbib.html>

CALIFORNIA BAY DELTA
ENVIRONMENTAL ENHANCEMENT ACT
INDIVIDUAL PROJECT PROGRESS REPORT
As of: **09/30/00**

Agency: **United States Geological Survey**

Proposal/Description: **Assessment of the Sacramento-San Joaquin River Delta as Habitat for
Production of the Food Resources that Support Fish Recruitment**

Funds Provided:	\$1,440,649	86% of the Total Funds Provided
Funds Obligated:	\$1,232,562	62% of the Total Funds Provided
Funds Expended:	\$890,125	

Labor:	\$212,703
Contracts (AE):	\$809,712
Contracts (Const):	
Overhead:	\$154,795
Other:	\$55,351
Total:	\$1,232,562

Accomplishments during the quarter:

Our entire research team participated in the CALFED Science Conference 2000 (October 3-5 at the Sacramento Convention Center). We have included our research team's abstracts as an appendix.

Task 2 (USGS):

Our project team successfully completed a comprehensive 9-site Delta cruise (July 18-21). Sampling sites were: Cutoff Slough (in Suisun Marsh), Sacramento River at Hood, San Joaquin River at Mossdale, Little Holland Tract, Sacramento River at Rio Vista, Prospect Slough, Franks Tract, Mildred Island, and X2. This cruise completes our project's field work.

We have nearly completed all sample analyses. We have now started data analysis of the entire data set. This data set includes 220 independent observations that spans two years and ten sampling cruises. Please see Appendix Talk#7.

We have completed a manuscript describing our June 1999 study in Franks Tract and Mildred Island, including interpretations of observed patterns of water quality based on hydrodynamic model simulations. Final internal reviews are near complete and we will be submitting this paper to Limnology and Oceanography. This paper describes the spatial and temporal variability of water quality in two of the Delta's flooded islands, citing practical lessons for restoration and monitoring of tidal systems. We presented this work in Bilbao, Spain, in July at the 31st Annual Symposium of the Estuarine and Coastal Sciences Association. Please see Appendix Talk#5.

Task 3 (VIMS):

Our efforts in the past quarter have been directed primarily on the analysis of lipid biomarkers for suspended particle samples. We completed samples for X2 (Jan'99-July'00), Franks Tract (Jan'99-April'00) and Little Holland Tract (Jan'99-Apr'00), and completed samples for April and July'00 from Cutoff Slough, Rio Vista and Mossdale. Total sterol concentrations normalized to POC for samples collected from the shallow-water habitats indicate that Little Holland Tract and Franks Tract had relatively constant sterol concentrations between Oct'98-Oct'99. Larger annual fluctuations were observed in Mildred Island, with higher concentrations observed in May and Oct'99.

Fatty acid compositions from Little Holland Tract, Franks Tract and Mildred Island indicate that the dominant sources of primary productivity differ between these sites. Little Holland Tract had the highest percentage of long-chain fatty acids, indicative of greater vascular plant inputs at this site. Mildred Island had the highest concentration of polyunsaturated fatty acids suggesting more dominant phytoplankton inputs than other shallow-water habitats. Fatty acids at Franks Tract were dominated by compounds indicative of submerged aquatic vegetation and algal sources.

Our data also indicate there are large within-site differences in POM quality in these shallow-water systems as evidenced by variability in total protein, total lipid, and fatty acid compositions at Franks Tract and Mildred Island.

A poster comparing lipid biomarker compositions in sub-habitats of the Delta was presented at the Gordon Research Conference in Organic Geochemistry in August 2000. Please see Appendix Talk#6.

Task 4 (UCD):

This quarter the UCD zooplankton team participated in the last comprehensive sampling trip in July and completed the zooplankton growth assays. We also conducted quality assurance tests on algal degradation in our experimental set-up. POC, PON, Chlorophyll a and stable isotope analyses have been completed for all collected samples. We are continuing to process samples for determination of fatty acid and phosphorus content and zooplankton community composition. During the comprehensive sampling trip in July we collected zooplankton stable isotope and fatty acid samples, as well as samples for particulate phosphorus analysis. Please see Appendix Talk#2.

Previous work by our group has pointed to the dominance of net phytoplankton productivity (NPP) as the dominant food source in spring and summer. The historical analysis is therefore focusing more on NPP. We have shown that there is a long-term trend in NPP, that it is due primarily to decreasing biomass, and that the biomass decrease is due to an increase in primary consumption, probably by the benthos. These and related results are currently being prepared for publication as the second in our series on historical analyses. We are currently examining records from individual stations representative of subregions to understand further and model statistically the long-term biomass trends. Please see Appendix Talk#3.

Task 5 (USGS and Stanford):

Nancy Monsen defended her Ph.D. thesis on July 31 at Stanford University. The thesis title is “A Study of Subtidal Transport in Suisun Bay and the Sacramento-San Joaquin River Delta, California”. Nancy spent this past quarter completing thesis revisions, and organizing two separate talks for the CALFED Science Meeting. Please see Appendix Talk#4. In addition, see “Transport Mechanisms for Water and Scalars in the Delta” in the CALFED Science Conference 2000 Abstract Book.

Appendix

Our entire research team participated in the CALFED Science Conference 2000 (October 3-5 at the Sacramento Convention Center). We have included our research team's abstracts as an appendix:

Author: Cloern*, J.E., U.S. Geological Survey (MS496), 345 Middlefield Rd., Menlo Park, CA 94025

Talk #1 Title: Basic Science in Support of Ecosystem Restoration: Lessons from a Research Program Supported by CALFED Category III

As a result of the sustained programs of biological monitoring by the IEP, we know with certainty that some biological populations in the Sacramento-San Joaquin Delta are smaller now than they were only two or three decades ago. For example, Jim Orsi and colleagues at CDFG have documented remarkable declines in the abundances of freshwater zooplankton (cladocerans, rotifers, native copepods). We know surprisingly little about the causes of these population declines and the degree to which they are linked to impairment of the ecosystem functions necessary to support fish production. In response to gaps in our knowledge about the food resource that supports biological production at the foodweb base, we designed an interdisciplinary program of basic research that has been supported by CALFED Category III for two years. Progress reports given in the following six papers will answer basic questions about the origin, quantity, quality, availability and utilization of organic matter as a food resource for the primary-consumer biota (e.g. zooplankton). Each progress report concludes with results of basic science, translated into practical lessons that can guide development of an ecosystem restoration plan for the Sacramento-San Joaquin Delta. Lessons from this overall project include the following: (1) critical gaps in knowledge exist about key ecosystem functions and processes in the Delta, including those required to sustain specific populations; (2) the success of attempts at ecosystem restoration/rehabilitation is therefore critically dependent upon new programs of ecosystem research designed to close those knowledge gaps; (3) all of the remaining science questions are complex and best attacked through team approaches that (a) integrate the physical sciences with geochemistry and biology-ecology, and (b) attack complex problems through a diversity of integrated approaches including laboratory experimentation, field experimentation, retrospective and synthetic analyses of historic data, and modeling. As a whole, the following six papers exemplify this style of integrated research and its application to guide ecosystem restoration.

Authors: Mueller-Solger*, A., K. Forshay D. Mueller-Navarra, Department of Environmental Science and Policy, 1 Shields Avenue, UC Davis, Davis, CA 95616.

Talk #2 Title: FOOD QUANTITY AND QUALITY FOR DAPHNIA IN THE SACRAMENTO-SAN JOAQUIN DELTA ESTUARY.

In this study we have investigated nutritional factors limiting zooplankton growth in various habitats of the Sacramento-San Joaquin Delta by measuring *Daphnia magna* growth and egg production rates when fed seston collected from various Delta habitats during different seasons. Four-day feeding assays were conducted in the laboratory with *Daphnia* neonates grown at 20°C using a flow-through system and including unialgal control treatments. We measured seston carbon, nitrogen, phosphorus, chlorophyll and fatty acid contents as well as carbon and nitrogen stable isotope signatures. Several of these variables were significantly related to *Daphnia* growth rates and may thus serve as indicators of nutritional habitat quality for zooplankton. *Daphnia* growth rates were most strongly related to chlorophyll concentrations, indicating the nutritional importance of phytoplankton over detrital matter for secondary production in this detritus-rich system. Also, we found large nutritional differences between habitats and seasons, with highest rates of *Daphnia* growth and egg production when fed seston from shallow habitats with long residence times (tidal marsh, flood plains, and a flooded island site) compared to deeper habitats (large tidal rivers).

Author: Jassby*, A.D., Department of Environmental Science and Policy, 1 Shields Avenue, UC Davis, Davis, CA 95616

Talk #3 Title: Organic Matter Sources for the Delta's Food Web

A long historical data set was used to determine quantitatively, on a Delta-wide basis, the primary organic matter sources for the food web and the factors underlying their variability. Tributary-borne loading is the largest source on an average annual basis; phytoplankton production and agricultural drainage are secondary; wastewater treatment plant discharge, tidal marsh drainage and possibly aquatic macrophyte production are tertiary; and benthic microalgal production, urban runoff and other sources are negligible. Allochthonous dissolved organic carbon must be converted to particulate form--with losses due to hydraulic flushing and to heterotroph growth inefficiency--before it becomes available to the metazoan food web. When these losses are accounted for, tributary loading and agricultural drainage play a much smaller role, and phytoplankton production a much larger one, than is evident from a simple accounting of bulk organic carbon sources, especially in seasons critical for larval development and recruitment success. Phytoplankton-derived organic matter is also a major component of particulate loading to the Delta. The Delta is a net producer of organic matter in critically dry years but, because of water diversion from the Delta, transport of organic matter from the Delta to important, downstream nursery areas in San Francisco Bay is always less than transport into the Delta from upstream sources.

Authors: Monsen*, N.E., S.G. Monismith, Environmental Fluid Mechanics Laboratory, Department of Civil and Environmental Engineering, Stanford University, Stanford, CA 94305-4020.

Talk #4 Title: Impact of Temporary Barriers and Flow through the Yolo Bypass on the Transport of Organic Carbon through the Delta

Jassby and Cloern (2000) have shown that tributary loading of bulk organic carbon is an important source of organic carbon in almost all seasons and water year types. In order to assess the food quality in different regions of the Delta, it is important to identify the tributary sources of water at any given location in the Delta. We present results from two numerical modeling simulations (April 1997 and February 1999) using Delta TRIM3D, a multi-dimensional hydrodynamic and scalar transport model developed by Casulli and Cattani (1994) and Gross (1999), and modified by Monsen (2000) for Delta applications. We used Delta TRIM3D to predict the source fractions from the Sacramento, San Joaquin, Yolo Bypass, and agricultural return waters at any location in the Delta and Suisun Bay given the hydrology, pump operations and temporary barrier configuration. The overall conclusion is that a multi-dimensional numerical modeling approach is necessary to understand the transport mechanisms that impact food availability in this complex region. The location of temporary barriers, gate operations, and flow through the Yolo Bypass all affect Delta circulation patterns as well as the fractions of water at given points in the Delta that are derived from different possible sources like the Sacramento or San Joaquin rivers. Specific mixing characteristics in the Delta have been identified through this study. We find in particular that temporary barriers installed in the Delta can have an extremely large effect on circulation and source fractions. Consequently, while these temporary barriers may be beneficial to migrating fish, they may degrade water quality. Secondly, study of the February 1999 period shows that Yolo Bypass water flows primarily through the Sacramento ship channel into Honker Bay and Suisun Bay. This indicates that the phytoplankton produced in Yolo Bypass water is not a source of food in the Central Delta because Yolo Bypass water does not reach the central Delta.

Authors: Lucas*, L.V., J.E. Cloern, J.K. Thompson, U.S. Geological Survey (MS496), 345 Middlefield Rd., Menlo Park, CA 94025, N.E. Monsen, Environmental Fluid Mechanics Laboratory, Department of Civil and Environmental Engineering, Stanford University, Stanford, CA 94305-4020.

Talk #5 Title: SPATIAL VARIABILITY IN ECOLOGICAL FUNCTION BETWEEN AND WITHIN FLOODED ISLANDS: LESSONS FOR RESTORATION AND MONITORING

Flooded islands represent a subset of "shallow water habitats," which have been proposed as a means of restoring certain of the Delta's living resources and ecological functions. Flooding of more islands may also be implemented to increase water storage in the Delta. We conducted a field study to answer these questions: How do flooded islands function ecologically, and do ecological characteristics vary between or within them? What modes of spatial and temporal variability must we consider when monitoring these habitats? As part of a larger integrated project concerned with food availability to zooplankton in the Delta, this study focused on the phytoplankton biomass available to the pelagic foodweb in flooded islands. This study involved high-resolution spatial mapping of water quality constituents

(including phytoplankton biomass) and of benthic filter feeders in two flooded islands: Franks Tract (FT) and Mildred Island (MI). Passive drifters were simultaneously tracked for understanding water transport during the study. We learned an important lesson for restoration: although superficially similar, FT and MI function very differently with respect to phytoplankton biomass available to the pelagic foodweb---one is apparently a net source, and the other a net sink. Furthermore, a flooded island may itself contain a range of ecological conditions. These spatial differences between and within flooded islands depend on tidally driven transport, depth, and benthic grazers. We also identified important lessons for monitoring of these habitats. First, spatial variability of water quality and ecological function within a flooded island may require multiple sampling locations. Second, spatial patterns vary significantly over hourly timescales due to tidal transports; therefore, consideration of tidal phase is necessary when sampling. Third, the degree of spatial heterogeneity may vary over weekly timescales due to modulated mixing over the spring-neap cycle; therefore, higher-resolution spatial sampling may be required on neap tide than on spring tide.

Authors: Canuel*, E.A., V. Pilon, M. Ederington-Hagy, School of Marine Science/Virginia Institute of Marine Science, Gloucester Point, VA 23062

Talk #6 Title: SOURCES OF ORGANIC MATTER IN THE SACRAMENTO-SAN JOAQUIN RIVER DELTA AS INFERRED THROUGH THE USE OF BIOMARKERS

The Sacramento-San Joaquin River Delta is characterized by a diversity of habitats and associated primary producers. At present, however, we do not have a clear understanding of how production at higher trophic levels is supported within the diverse habitats that encompass the Delta. As part of this CALFED-supported study, we are utilizing geochemical indicators (lipid biomarkers and stable isotopes) to identify the sources of particulate organic matter (POM) in sub-environments characteristic of the Delta, with the goal of identifying habitats most likely to support production at higher trophic levels. Preliminary results indicate that there is tremendous variability in POM sources both within and among these habitats, and that sources of carbon derived from various primary producers differ in their potential usefulness to heterotrophic organisms. We find higher levels of polyunsaturated fatty acids (PUFA; indicators of labile phytoplankton-derived carbon) and sterols indicative of algal sources on the San Joaquin vs. Sacramento Rivers. While PUFA comprised 32-47% of the fatty acids at Mossdale, they made-up only 20-31% of the fatty acids at Rio Vista. Sterol distributions corroborate the greater abundance of algal carbon at Mossdale. Temporal variations in organic matter quality are also evident. Lipid biomarker compounds indicative of algal sources were generally enriched at the river sites during May (Rio Vista) and July (Mossdale) while there was little temporal variability at our baseline tule marsh site in Cutoff Slough. Stable carbon and nitrogen isotopic signatures vary in response to fluctuations in productivity and river flow. Carbon isotopic signatures were most enriched in May through October 1999 but were depleted in January 1999. Nitrogen isotopes were depleted in May through October and enriched in January. Therefore, in considering rehabilitation strategies managers need to consider both the

amount of carbon produced within particular habitats as well as its composition as both may influence OM availability to heterotrophic organisms.

Authors: Sobczak*, W.V., J. E. Cloern, B.E. Cole, T. Schraga, A. Arnsberg, J. Edmunds, U.S. Geological Survey (MS496), 345 Middlefield Rd., Menlo Park, CA 94025

Talk #7 Title: Organic Matter Bioavailability among Habitats and Hydrologic Inputs in the Sacramento and San Joaquin River Delta

We have assessed the sources, quantity, composition, and bioavailability of organic matter in the Sacramento and San Joaquin River Delta among a diversity of habitats and hydrological inputs across a range of hydrological conditions that span seasons. In this paper, we examine variation in the amounts and bioavailability of dissolved organic carbon (DOC) and particulate organic carbon (POC). Organic carbon bioavailability was assessed with bioassays in which organic carbon loss and microbial respiration were measured. These bioassays enable us to partition organic matter into four pools: refractory DOC, bioavailable DOC, refractory POC, and bioavailable POC. The size of these pools and, more subtly, the relative size of these pools are ecologically relevant because they provide the potential energy for trophic transfer and insight into the routing of this energy into the planktonic food web. In general, a small fraction of the total pool of organic matter is bioavailable to bacterioplankton. This pool of bioavailable organic matter is routinely dominated by bioavailable DOC, however habitats and hydrologic inputs that support high algal biomass can supply large amounts of bioavailable POC per volume. More specifically, water from the Sacramento River appears to deliver less bioavailable organic matter (when normalized to volume) than water from the San Joaquin River, suggesting that the routing of water through the Delta can alter organic matter bioavailability in Delta habitats. Habitats that episodically support high algal biomass (e.g. Yolo Bypass and Mildred Island) can provide large amounts of bioavailable organic matter per volume, suggesting that the construction of shallow water habitats that promote high primary production may generate more bioavailable organic matter within the Delta. However, the concentration of bioavailable organic matter (normalized per volume) in the Delta's riverine inputs and existing shallow water habitats is small compared to the concentrations in sloughs draining Suisun Marsh, suggesting that much larger pools of bioavailable organic matter were historically present in the Delta.

8th QUARTERLY PROGRAMMATIC REPORT

October 10, 2000

Program Manager:	<u>Spencer Shepherd</u>	Phone: 415-778-0999 ext. 24
Project Manager:	<u>Larry Nash</u>	Quarter Ending: <u>9/30/00</u>
CALFED Project #:	<u>97-N01</u>	Recipient Agreement: <u>8/28/98</u>

DELIVERABLES

Name of Deliverable	Due Date	% of Work Complete	Date Deliverable Complete
<u>Task 1 (NFWF approval on 10/8/98 with 1st revision approval on 8/4/99)</u>			
Subtask I Draft subcontract	*	100	7/2/98
Final subcontract	*	100	8/3/98
Subtask II Draft EMP and QAAP	9/30/98	100	11/9/98
Subtask III Draft subcontract	9/30/98	100	11/9/98
Final subcontract	1 week after NFWF comments	100	1/12/99
Subtask IV Quarterly Report 1	1/20/99	100	1/10/99
Subtask IV Quarterly Report 2	4/12/99	100	4/12/99
Subtask IV Quarterly Report 3	7/12/99	100	7/12/99
Subtask IV Quarterly Report 4	10/13/99	100	10/4/99
Subtask IV Quarterly Report 5	1/10/00	100	1/26/00
Subtask IV Quarterly Report 6	4/10/00	100	4/12/00
Subtask IV Quarterly Report 7	7/10/00	100	7/10/00
Subtask IV Quarterly Report 8	9/10/00	100	9/10/00
Subtask V Characterization Report	3/1/00 8/1/00 12/1/00	40	--

Task 2 (NFWF approval on 8/4/99)

Subtask I Draft subcontract	*	100	6/23/99
Final subcontract	*	100	4/12/00

DELIVERABLES

<u>Name of Deliverable</u>	<u>Due Date</u>	<u>% of Work Complete</u>	<u>Date Deliverable Complete</u>
Subtask VI Draft Priority Target List/Data Report	11/30/99	100	
Subtasks VII and VIII Draft PEAP and Implementation Plan	12/23/99	100	12/23/99
Subtask IX Outreach Materials	various	30	7/01/01
Subtask X Quarterly Report 5	1/10/00	100	1/26/00
Subtask X Quarterly Report 6	4/10/00	100	4/12/00
Subtask X Quarterly Report 7	7/10/00	100	7/10/00
Subtask XI Evaluation Report	11/30/00	0	--
Final Evaluation Report	11/17/01	0	--

Task 4 (NFWF approval on 10/8/98 with 1st revision approval on 8/4/99)

Subtask I Final subcontract	*	100	8/3/98
Subtask II Prepare scope for Arcade Creek Watershed	4/1/99 11/1/99 12/1/99 7/1/00	100	10/10/00
Subtask III Prepare scope for PERA	4/1/99 12/1/99 7/1/00	100	10/10/00

1. Narrative Description of Activities Performed During the Quarter

TASK ORDER 1: Approval and NTP with Task Order 1 was received from NFWF on 10/8/98

JULY 2000

- Minimal work performed under this task in July.

AUGUST 2000

- Investigated options for hiring statistician to assist in preparation of the Characterization Report.
- Met with Larry Walker Associates to discuss the possibility of their assisting in preparation of the Characterization Report by performing some of the statistical analysis required.

SEPTEMBER 2000

- AQUA-Science prepared and submitted final report for toxicity testing conducted as part of the study. The report is titled "TOXICITY OF ARCADE CREEK STORMWATER TO *CERIODAPHNIA DUBIA*: Results of On-Site and Laboratory Toxicity Tests and ELISA Analyses: Test Events 1-3." Results from this report will be incorporated into the Characterization Report.
- Prepared all ELISA data for evaluation for the Characterization Report. Organized ELISA data from the final eight monitoring events. Inputted data into Excel spreadsheets. Entered data with important monitoring event and site information to enable the data to be evaluated in various ways.

TASK ORDER 2: See attached Quarterly Report from Deen and Black

TASK ORDER 4: Approval and NTP with Task Order 1 was received from NFWF on 10/8/98.

JULY-AUGUST

- Presented the final report "Tier 2 Probabilistic Ecological Risk Assessment on Arcade Creek" in a meeting of the Sacramento Stormwater agencies and discussed the findings. Gave the Sacramento Stormwater agencies an opportunity to review the document. No comments were received. Document is considered final.

SEPTEMBER

- Multiple copies were produced of the final report "Tier 2 Probabilistic Ecological Risk Assessment on Arcade Creek." A draft cover letter for the final was prepared and is being

reviewed. The final copies will be sent out to CALFED/NFWF and the technical advisory committee members in the first half of October 2000.

2. Problems and Delays Encountered

TASK ORDER 1:

- The Preparation of the Characterization Report will likely require assistance on statistical evaluation of the data. Larry Walker Associates is being considered to perform this work. CALFED/NFWF will be contacted if the City decides they would like to retain Larry Walker Associates to assist in this statistical work. At that time, an extension of the due date for the Characterization Report will likely be requested.

TASK ORDER 4:

- Delayed sending the final report "Tier 2 Probabilistic Ecological Risk Assessment on Arcade Creek" to CALFED/NFWF because wanted to give other participating agencies a chance to review the report before it went out. Delay in submittal of final report "Tier 2 Probabilistic Ecological Risk Assessment on Arcade Creek" due to reasons described immediately above.

3. Other Issues or Comments

- None.

4. Project Expenses for Each of the Next Three Months

Task Order 1

Month 1: \$5,100; Month 2: \$5,100; Month 3: \$5,100

Task Order 2

Month 1: \$10,000; Month 2: \$10,000; Month 3: \$10,000

Assumes subtasks II – XIII are complete; charges to subtask IX (Implement PEAP) occur evenly over last nine months of 2000; and charges to subtask X (Project Management) occur evenly over last nine months of 2000.

Task Order 4

Work under this task is complete. No more expenses will be charged to this task.

8th Quarter Budget--July - Sep. 2000

Total Project Estimated Completion Date: 2.5 years

(Quarterly Budget--7/00- 9/00)								
	Budget	Accrued Expenditures	Major Consultant expenditures	Sierra expenditures	AquaSci expenditures	Materials expenditures	Variance	** Budget
Task 1: Water Quality Monitoring - 1.5 years	\$27,700	\$17,225	\$8,225	\$0	\$9,000	\$0	\$10,475	\$79,204
Schedule: FY '99 through FY '00								
Percent Work Complete for Task 1: 78%								
1.I. Execute Tomko Contract	0	0					0	0
1.II. EMP and QAPP Preparation	0	0					0	-198
1.III. Execute AquaScience Contract	0	0					0	0
1.IV.A. Monthly River Sampling	0	0	0	0			0 *	-1,194
1.IV.B. Storm Runoff Sampling	0	0	0	0			0	-451
1.IV.C. Monthly Runoff Sampling	0	0	0	0			0	7,993
1.IV.D. Rainfall Sampling	0	0	0	0			0 *	3,137
1.IV.E. Arcade Creek Sampling	0	0	0	0			0	16,549
1.IV.F. High-Use Site Sampling	0	0	0				0 *	3,430
1.IV.G. WET Tests	4500	4,500	0		4,500		0	12,500
1.IV.H. Flow Through Bioassay	4500	4,500	0		4,500		0	12,500
1.V. PM and Reporting	18700	8,225	8,225				10,475	24,938
Task 2: Education and Outreach Plan - 2.3 years	\$29,850	\$36,736	\$36,736	\$0	\$0	\$0	(\$6,886)	\$397,267
Schedule: FY '99 through FY '02								
Percent Work Complete for Task 2: 23%								
(Work began September 1, 1999)								
2.I. Execute Dean and Black Contract	0	0	0				0	0
2.II. Review/Evaluate Existing Data	0	0	0				0	4,370
2.III. Analyze Data/Create Workplan	0	0	0				0	1,696
2.IV. Identify Other Users	0	0	0				0	3,743
2.V. Analyze Use	0	0	0				0	3,711
2.VI. Develop Priority List	0	0	0				0	2,961
2.VII. Design PEAP	0	0	0				0	3,971
2.VIII. Prepare Implementation Plan	0	0	0				0	1,324
2.IX. Implement the PEAP	27,300	31,064	31,064				-3,764	344,003
2.X. Project Management	2,550	5,672	5,672				-3,122	15,492
2.XI. Prepare Evaluation Reports	0	0	0				0	9,247
Direct Salary and Benefits	0	0	0				0	6,750
Task 4: Evaluation of Effects -1.0 year	\$1,275	\$1,211	\$1,211	\$0	\$0	\$0	\$64	\$4,233
Schedule: FY '99								
Percent Work Complete for Task 4: 100%								
4.I. Execute Tomko Contract	0							0
4.II. SOW for Arcade Creek model	1,275	1,211	1,211				64	2,430
4.III. SOW for Ecological Risk Assessment	0	0	0				0	1,803
Total:	\$58,825	\$55,172	\$46,172	\$0	\$9,000	\$0	\$3,653	\$480,704

Notations * : Monthly river sampling, rainfall sampling, and high-use pesticide site sampling expenditures accounted for under Storm Runoff, Monthly Runoff, and Arcade Creek Sampling subtask expenditures

8th Quarter Budget--July - Sep. 2000

(FY '00 Budget)				(Total Budget)			
Accrued Expenditures	Last Q Total Accrued	Remaining Balance	**	Total Budget	1999 Accrued	Tot. Accrued Expenditures	Balance to Complete **
\$31,488	\$14,263	\$47,716		\$184,000	\$112,896	\$144,384	\$39,616
0	0	0		0	0	0	0
0	0	-198		4,000	4,198	4,198	-198
0	0	0		0	0	0	0
0	0	-1,194		2,000	3,194	3,194	-1,194
1,160	1,160	-1,611		2,000	2,451	3,611	-1,611
1,265	1,265	6,728		26,000	18,007	19,272	6,728
0	0	3,137		5,000	1,863	1,863	3,137
1,160	1,160	15,389		56,000	39,451	40,611	15,389
0	0	3,430		4,000	670	670	3,330
8,500	4,000	4,000		20,000	6,000	14,500	5,500
8,500	4,000	4,000		15,000	4,150	12,650	2,350
10,903	2,678	14,036		50,000	32,912	43,815	6,185
\$85,030	\$48,294	\$312,237		\$459,500	\$22,919	\$107,948	\$351,552
0	0	0		0	0	0	0
0	0	4,370		5,120	750	750	4,370
0	0	1,696		4,446	2,750	2,750	1,696
0	0	3,743		4,605	863	863	3,743
0	0	3,711		3,711	0	0	3,711
0	0	2,961		3,711	750	750	2,961
0	0	3,971		10,593	6,623	6,623	3,971
0	0	1,324		4,811	3,488	3,488	1,324
73,027	41,963	270,976		344,253	250	73,277	270,976
9,628	3,956	5,864		34,855	7,446	17,074	17,781
125	125	9,122		23,776	0	125	23,651
2,250	2,250	4,500		19,619	0	2,250	17,369
\$4,271	\$2,173	(\$38)		\$20,000	\$15,805	\$20,076	(\$76)
0	0			0		0	0
2,401	1,190	29		10,000	7,570	9,971	29
1,870	1,870	-67		10,000	8,235	10,105	-105
\$120,789	\$64,730	\$359,915		\$663,500		\$272,409	\$391,091

QUARTERLY PROGRAMMATIC REPORT

Program Manager	<u>Spencer Shepherd</u>	Phone #415-778-0999 x24
Project Manager	<u>Meghan Mazzoni</u>	Phone #415-281-0432
CALFED Project #	<u>97-N02</u>	
Quarter Ending	<u>September 30, 2000</u>	

Deliverables

NOTE: The 97-N02 agreement was not fully executed until February 10, 1999.

<u>Deliverable</u>	<u>Due Date</u>	<u>% Complete</u>	<u>Date Deliverable Complete</u>
Task 1: Administrative Costs – Sacramento River Acq.			
Subtask 1: Salaries/Benefits/Overhead		approx. 20% of budget*	
* FWS and WCB need to submit documentation of overhead expenses			
Subtask 2: Services		approx. 43% of budget	
Deliverable 1: Appraisal cover pages			Ongoing
Deliverable 2: Survey cover pages			Ongoing
Deliverable 3: Haz Mat summaries			Ongoing
Deliverable 4: Escrow closing statements			Ongoing
Deliverable 5: Baseline reports			N/A to date
Deliverable 6: Draft and final subcontracts			Ongoing
Deliverable 7: FWS letter of assurances			Submitted for Kaiser and Koehnen land
Task 2A: Acquisition of Kaiser Property	100%		2/26/99
Deliverable 1: Recorded Deed			9/28/99
Task 2B: Acquisition of Koehnen Property	100%		8/12/99
Deliverable 1: Recorded Deed			9/28/99
Deliverable 2: Survey			6/30/00
Task 2C: Acquisition of RX Ranch Property	100%		2/29/00
Deliverable 1: Recorded Deed			pending
Task 2D: Acquisition of Gunnhill Property	100%		4/5/00
Deliverable 1: Recorded Deed			pending

Narrative

Activities Performed:

Task 1: Administrative Costs – Sacramento River Acquisition

Negotiation efforts, due diligence duties and project management pertinent to the acquisition of the RX Ranch, Gunnhill, Sunset Ranch, JG Brattan, and Claire Kaplan Trust properties plus

12 other Sacramento River Floodplain properties currently in negotiation were performed by the Project Director and members of the senior staff.

The Koehnen property in Butte County (632 acres planted in walnuts and almonds, plus riparian) closed escrow in August with title vested in the US Fish & Wildlife Service (FWS). The Nature Conservancy (TNC) manages the property under a Cooperative Land Management Agreement (CLMA) with FWS. TNC negotiated a lease back with the Koehnen family for the agricultural portion of the property for the crop-years 2000 and beyond. Net lease income will be used to partially offset the cost of restoration as orchard production decreases and/or trees die as a result of age, disease or flood damage. FWS will pay in lieu taxes to Butte County. TNC and the Koehnen family will pay possessory interest taxes.

The Gunnhill property in Glenn County (54 acres planted to walnuts, 11 acres riparian) and the RX Ranch property, also in Glenn County (251 acres planted to almonds and walnuts) closed during the quarter. TNC submitted a Task Order for RX Ranch acquisition funds during second quarter and submitted an additional Task Order for Gunnhill acquisition funds during the last quarter.

Escrow closed on Sunset Ranch in July 2000, and TNC is currently negotiating with the owners of the JG Brattan and Claire Kaplan Trust properties, all within close proximity of the Gunnhill, RX Ranch, Kaiser, and Koehnen properties. Escrow is expected to close on Brattan and/or Kaplan following harvest in October or November 2000.

All of these properties taken together fall within the Chico Landing Sub-Reach between Hamilton City and Ord Bend. Gunnhill, Brattan, Kaplan, RX Ranch, Sunset Ranch and Kaiser are integral elements of a coordinated floodplain management strategy that will address ecosystem restoration in the context of Hamilton City's need for flood protection. The US Army Corps of Engineers is currently conducting a feasibility study that envisions relocating the "J Levee" that protects Hamilton City and currently disconnects Gunnhill, Kaplan, and Brattan floodplain from the Sacramento River. Upon relocation of the levee these properties will provide increased floodplain capacity and will be restored to their natural function as floodplain riparian habitat.

Task 2A: Acquisition of Kaiser property

Baseline assessment and preparation of a management plan for the Kaiser property (approximately 666 acres) as an addition to the U.S. Fish & Wildlife Service Sacramento River National Wildlife Refuge are ongoing. Perpetual management will be provided by the FWS as part of its normal refuge operations consistent with CALFED objectives and the management plan. TNC currently manages the Kaiser property under a CLMA with FWS. Approximately 130 irrigated acres have been leased to Loesch Bros. for row crop farming (corn) for crop year 1999; additional acres will be leased for crop year 2000 depending upon the success of current weed control activities on the property. The net income will be used to support restoration activities on refuge lands including those purchased with CALFED funds.

Task 2B: Acquisition of the Koehnen property

The Koehnen property (approximately 632 acres) closed escrow on or about August 9, 1999 with title vesting in the United States. Baseline assessment and preparation of a management plan for the Koehnen property as an addition to the U.S. Fish & Wildlife Service Sacramento River National Wildlife Refuge are ongoing. Perpetual management will be provided by the FWS as part of its normal refuge operations consistent with CALFED objectives and the management plan. TNC currently manages the Koehnen property under a CLMA with FWS. Approximately 590 acres of almonds and walnuts will be leased to the Koehnen family for crop years 2000 and beyond. The net income will be used to support restoration activities on refuge lands including those purchased with CALFED funds.

Task 2C: Acquisition of the RX Ranch property

The Nature Conservancy (TNC) closed escrow on the RX Ranch in February 2000. Purchased from Ted and Craig Dress, dba RX Ranch, the ranch is located on the west side of the Sacramento River south of Hamilton City at RM 194.5. Prior to opening negotiations with Ted and Craig Dress, TNC, the United States Fish and Wildlife Service (FWS), the Wildlife Conservation Board (WCB) and the California Department of Fish and Game (DFG) reached consensus agreement to pursue acquisition of the RX Ranch.

The RX Ranch Tract is within the "inner-river zone", also known as the "150 year meander zone", as those terms are defined by the SB 1086 Draft Restoration Handbook (May 1998). Acquisition of the RX Ranch Tract is essential to recreating a continuous riparian corridor along the river and reconnecting the river to its traditional floodplain.

Additionally, the RX Ranch, Gunnhill Farms and the Kaplan tract (see Task 2D, below) are within an area that was traditionally protected from direct impact from flood waters by a privately maintained levee (commonly referred to as the "J Levee"). Originally, the J Levee began north of Hamilton City and ended just upstream of the RX Ranch which, at that time, included additional acreage north of the current tract. Several years ago the California Department of Fish and Game (DFG) purchased the northern portion of the RX Ranch, degraded the J Levee and constructed a weir across the new northern boundary of the RX Ranch. DFG hoped to reduce potential flood damage to the RX and adjoining properties (Kaplan, Brattan, Lewis, Vereschagin, and Billou), however, the weir failed in a subsequent event and the RX Ranch and adjoining properties are now inadequately protected as a result of continued, persistent failure of the J Levee.

TNC is currently working with Glenn County, the Hamilton City Community Services District, and adjoining landowners to acquire sufficient land in addition to the RX Ranch to re-establish a riparian corridor, permit limited river meander, and provide land on which to relocate the J Levee. Acquisition of the RX Ranch is critical to this community based effort restore a functioning ecosystem and insure public safety by relocating and rebuilding the J Levee on higher ground away from the direct impact of high stage, high velocity flood flows. Glenn County and adjoining landowners actively support acquisition of the RX Ranch for conservation and the nonstructural flood control benefit of increased floodplain capacity.

Task 2D: Acquisition of the Gunnhill property

The Nature Conservancy (TNC) closed escrow the second quarter with Gunnar and Hilli Sevelius, dba Gunnhill Farms, property located on the west side of the Sacramento River south

of Hamilton City at RM 197. Prior to opening negotiations with Gunnar and Hilli Sevelius, TNC, the United States Fish and Wildlife Service (FWS), the Wildlife Conservation Board (WCB) and the California Department of Fish and Game (DFG) reached consensus agreement to pursue acquisition of the Gunnhill Farms.

Examination of the Gunnhill Farms title report revealed a right of first refusal in favor of American Almond Growers, predecessor to the Claire Kaplan Trust, owner of an adjoining parcel. TNC negotiated with American Almond to obtain a release of its right of first refusal and to obtain an option on the Kaplan orchard adjoining Gunnhill. The Wildlife Conservation Board/California Department of Fish and Game favor allocation of WCB/DFG funds under CalFed 97-N02 and/or additional funds to purchase the Gunnhill and Kaplan parcels for eventual inclusion in DFG's Pine Creek Unit. WCB has committed additional funding to complete the Kaplan acquisition in the event that CalFed 97-N02 capital funds remain after purchase of Gunnhill and RX Ranch (see Proposed Task 2D, below).

TNC submitted Task Order 2D to request reimbursement for the Gunnhill acquisition.

The Gunnhill and Kaplan acquisitions will link the DFG Pine Creek Unit to the RX Ranch tract (see Proposed Task 2D, below) and the USFWS Kaiser tract south of RX (acquired pursuant to Task 2A) to create an 1,800 acre unfragmented riparian corridor on the west bank of the Sacramento River below Hamilton City. Glenn County and adjoining landowners actively support acquisition of the RX Ranch for conservation and the nonstructural flood control benefit of increased floodplain capacity and the opportunity these acquisitions present to relocate the J Levee (see RX Ranch above) and accomplish ecosystem restoration to provide additional flood plain capacity and increased public safety.

Task 3: Start Up Stewardship

Task Order 3 for start up stewardship activities was written and submitted to NFWF/Calfed for approval in September. Under Task 3 of the 97-NO2 Scope of Services, as lands are acquired startup stewardship activities are to be undertaken, including preparation of long-term management and monitoring plans for the properties. Subtasks within the Task Order include modeling and evaluating potential changes in hydrology and geomorphology in the Hamilton City and Road 29 areas in preparation for identifying short and long term conservation and management actions to be included in management plans for the Chico Landing sub-reach.

Projected Expenses for Next Three Months:

Following is an estimate of costs for the next three months (October – December, 2000):

Month 1	\$246,000	Month 2	\$246,000	Month 3	\$246,000
Total for Quarter: \$738,000					

Tit Sacramento River Floodplain Acquisition and Riparian Forest Restoration

Applicant: The Nature Conservancy.

CALFED Project Number: 97-N02

Total Estimated Cost \$9,879,800

Funding from Federal Bay-Delta Account

Costs contributed by The Nature Conservancy

Salaries/Benefits/Overhead 2,852.42

Phase I schedule 3 years

Total Project Estimate 3 years

Total Project Estimate 3 years		PHASE I			PHASE I		
		(Quarterly Budget)			(FY '00 Budget)		
		Accrued			Accrued	Remaining	
		Budget	Expenditures	Variance	Budget	Expenditures	Balance
Task 1: Administrative Costs - Sacramento River Acquisition							
Schedule: FY '99 through FY '01							
Percent Budget Complete for Task 1: 30%							
1	Salaries, Benefits, Overhead	15,000	12,704	2,296	465,160	94,285	370,875
2	Services	10,000	6,691	3,309	310,000	133,766	176,234
Task 2: Acquisition of Properties		515,000	0	515,000	8,704,640	8,010,612	694,028
Schedule: FY '99 through FY '01							
Percent Budget Complete for Task 1: 92 %							
2A	Acquistion of Kaiser Property	Acquisition completed			In Task Total		
2B	Acquistion of Koehnen Property	Acquisition completed					
2C	Acquisition of RX Ranch Property	Acquisition completed 2/29/00					
2D	Acquisition of Gunn Hill Property	Acquisition completed 4/5/00					
Task 3: Start-up Stewardship: Development of							
Monitoring & Management Plans		Task Order 3 Pending			Task Order Pending		
Schedule: FY '99 through FY '01							
Percent Work Complete for Task 1: 0%							
3A	Hydraulic modeling, foundation invest.						
3B	Hydraulic & geomorphic modeling						
3C	Short-term mgmt & monitoring plan						
3D	Long-term mgmt & monitoring plan						
Phase I Total:		\$540,000	\$19,395	\$520,605	\$9,479,800	\$8,238,663	\$1,241,137

We budget to the Sub-task level only if they are active during the Quarter in question. If a SUBTASK is complete, the SUBTASK cost is

**** Explanation of Variance in Budget :**

** Have requested that FWS and WCB send in summary of expenses for Calfed reimbursement. No request for reimbursement.

FN1. \$200,000 originally budgeted for WCB/FWS staff/overhead

FN2. For capital costs only

FN3. \$400,000 for FWS/WCB per MOU. Consensus agreement to request different budget allocation in Task 2E

* Selection of appropriate Task 2E property still pending.

Budget year: 00-Sep-30
Statement Quarter: Sep-00

PHASE I			
(Three Year Budget)			
Budget	Accrued Expenditures	Balance to Complete	**
465,160	94,285	370,875	FN1.
310,000	133,766	176,234	
8,704,640	8,010,612	694,028	FN2.
In Task Total			
400,000	0	400,000	FN3.
\$9,879,800	\$8,238,663	\$1,641,137	

rolls-up into the Task level.

ests yet for reimbursement by FWS or WCB.

ask Order 3.

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT

Quarter ending 9/30/00

Agency/Non-Profit: The Nature Conservancy

Proposal/Description: Sacramento River Floodplain Acquisition

Funds Provided: _____% of the Total Funds Provided

Funds Obligated: \$1,000,000.00 _____% of the Total Funds Provided

Funds Expended: \$1,000,000.00**

Labor:
Contracts:
Overhead
Other: Capital costs**

** Funds have been expended and line item reporting will be provided next quarter pending consensus site selection of an alternative parcel(s) as described below.

TNC tentatively earmarked all funds available under this cooperative agreement for partial fee acquisition of riparian and restoration acres and a conservation easement over the agricultural portion of the Repanich Tract in Tehama County as described below and in the TNC report for the quarter ending 3/31/00. TNC is currently assessing the entire tract to determine the optimum configuration for ecosystem restoration and continued agricultural production by a private owner. Terms and value of the easement are yet to be determined. This process will take longer than anticipated, primarily because TNC staff are working with the local community to achieve consensus support for a balanced division of the tract for ecosystem restoration and private, compatible agriculture.

Because of the time it is expected to take to complete the site assessment and reconfiguration of the Repanich Tract, plus the additional time that will be required to line up an out-sale and negotiate easement terms over the agricultural portion, TNC proposes to use the awarded funds on a simpler transaction that can close in the near-term future. TNC currently has several appropriate tracts under option, and TNC is currently in the process of obtaining consensus agreement from DFG, WCB and USFWS to apply these funds to purchase of an alternate tract.

TNC's recommendation to DFG, WCB and FWS will be to acquire an additional tract or tracts in the vicinity of Hamilton City/Stony Creek/Road 29 to build on nearby CalFed 97-N02 acquisitions. Additional acquisitions south of Hamilton City will be required to relocate the

privately maintained levee that currently protects Hamilton City but disconnects the river from its floodplain. Additional acquisitions south of Hamilton City will increase flood plain storage, provide a continuous riparian corridor and limited meander between Highway 32 and Ord Ferry, provide additional spawning and rearing habitat for resident and migratory fish, and eliminate or minimize potential adverse impacts from ecosystem restoration.

TNC anticipates identifying a tract or tract and obtaining consensus agreement from DFG, WCB and USFWS regarding the alternative tract prior to the end of December 2000.

Title **Sacramento River Floodplain Acquisition**

Budget year: 00-Sep-30

Applicant: The Nature Conservancy.

Statement Quarter: Sep-00

CALFED Project Number: #99-XX####

FWS DCN#11420-9-J047

Total Estimated Cost of Phase I: \$1,000,000

 Funding from Federal Bay-Delta Account 1,000,000

Phase I schedule 3 years

Total Project Estimated Completion 3 years

			PHASE I			PHASE I			PHASE I		
			(Quarterly Budget)			(FY '00 Budget)			(Three Year Budget)		
			Accrued			Accrued			Accrued		
			Budget	Expenditures	'ariance	Budget	Expenditures	Remaining	Budget	Expenditures	Balance to
								Balance			Complete
Task 1:	Acquisition		\$1,000,000	\$1,000,000	\$0	\$1,000,000	\$1,000,000	\$0	\$1,000,000	\$1,000,000	\$0
Schedule: FY '99 through FY '01											
Percent Work Complete for Task 1: 0%											
Phase I Total:			\$1,000,000	\$1,000,000	\$0	\$1,000,000	\$1,000,000	\$0	\$1,000,000	\$1,000,000	\$0

** Please explain significant variance.

QUARTERLY PROGRAMMATIC REPORT

Program Manager	<u>Spencer Shepherd</u>	Phone # <u>415-778-0999</u> x24
Project Manager	<u>Meghan Mazzoni</u>	Phone # <u>415-281-0432</u>
Calfed Project #	<u>97-N04</u>	
Quarter Ending	<u>September 30, 2000</u>	

Deliverables

<u>Deliverable</u>	<u>Due Date</u>	<u>% Complete</u>	<u>Date Deliverable Complete</u>
Task 1: Acquisition of 80 acres		100%	
<u>Subtask 1: TNC Service contracts</u>			
Deliverable 1: Appraisal cover page			1/8/99
Deliverable 2: Survey report cover page			1/8/99
Deliverable 3: USFWS Level I report summary			9/4/98
Deliverable 4: Escrow closing statements			1/8/99
<u>Subtask 2: Phase I Assessment</u>			
Deliverable 1: Phase I Assessment			11/13/98
<u>Subtask 3: Capital costs</u>			
Deliverable 1: Copy of recorded deed			1/8/99
Task 2: Restoration of 10 acres			
<u>Subtask 1: Site analysis and planning</u>			
Deliverable 1: Site restoration plan			3/6/00
Deliverable 2: Draft and final subcontracts			5/25/00
<u>Subtask 2: Site preparation, planting, maintenance & monitoring</u>			
Deliverable 1: Site tour, as necessary			
Deliverable 2: Draft and final subcontracts			4/24/00
Deliverable 3: Annual report			
Deliverable 4: Draft and final monitoring plan			

Narrative

Task 1: Acquisition of 80 acres

On December 8, 1998 the acquisition of the Flynn property was completed with title vesting in the United States. The Nature Conservancy provided Calfed funds to the U.S. Fish and Wildlife Service for the purchase under the 97-N04 Recipient Agreement. The property consists of 94.55 acres and was added to the Vincent J. Flynn Unit of the Sacramento River

National Wildlife Refuge. The acquisition also included a levee located on the eastern boundary of the property and rights to an easement to maintain a levee on adjacent property.

Task 2: Restoration of 10 acres

During the last quarter the 10-acre restoration site was maintained through irrigation and weed control. The 30-day monitoring showed over 95% survival for all species except cottonwood, which had 45% survival. Mortality of cottonwood is usually due to length of time the cuttings were stored in cold storage. The dead cottonwoods will be replanted in January-February 2001 with fresh cottonwood cuttings. Acorns are currently being collected for planting at Flynn in October. Irrigation, weed control, acorn planting, and end-of-season monitoring will occur in the next quarter.

Monitoring

PRBO completed breeding season monitoring in August and is currently conducting fall migration monitoring and anticipates completion towards the end of October. A copy of PRBO's annual report for 1999 is included as Appendix A. In addition, a river survey by USFWS Refuge staff in July 2000 documented the second largest ever recorded bank swallow (*Riparia riparia*) colony utilizing the restored cut bank at the Flynn site (J. Silveria pers. com.).

Recruitment potential for aquatic elements: Photo-monitoring and GPS of the bank location at the Flynn site (97-N04 & 97-N03b) was completed in July, 2000. Selected photos of the restored cut bank and the increasing channel complexity as a result of the bank restoration are included as Appendix 2.

Following is an estimate of costs for the next three months (October-December 2000):

Month 1 \$100	Month 2 \$100	Month 3 \$4,750	Total for Quarter \$4,950
---------------	---------------	-----------------	---------------------------

**Title Ecosystem and Natural Process Restoration on the Sacramento River:
 A Meander Belt Implementation Project**

Applicant: The Nature Conservancy.

CALFED Project Number: 97-N04

Total Estimated Cost of Phase I \$898,700

Funding from Federal E 898,700

(In-Kind Services would be listed here if applicable- note: Detail of the service provide would be included.)

Phase I schedule 3 years

Total Project Estimated Completion 3 years

	PHASE I (Quarterly Budget)				PHASE I (FY '00 Budget)			
	Budget	Accrued Expenditure:	Variance	**	Budget	Accrued Expenditures	Remaining Balance	**
Task 1: Acquisition of Flynn property Schedule: FY '98 through FY '99				n1	\$823,244	\$823,244	(\$0)	
	Task 100% Complete							
Task 2: 10 ac restoration Schedule: FY'99 through FY'2001 Task: 28% complete	24500	\$21,328	\$3,172		\$75,456	\$21,328	\$54,128	
Phase I Total:	\$24,500	\$21,328	\$3,172		\$898,700	\$844,572	\$54,128	

We budget to the Sub-task level only if they are active during the Quarter in question. If a SUBTASK is complete, the SUBTASK cost is

** Please explain significant variance.

** Implementation of Task Order 2 was delayed until Task Order 2 was approved by NFWF/Calfed on 2/1/00.

Task 1 and 2 budget revision approved in March 2000 as part of Invoice #4.

n1. Earlier reported refund of closing costs in prior report was a mistake. (Refund was incorrectly recorded against Flynn tract)

Budget year: 00-Sep-30

Statement Quarter: Sep-00

PHASE I			
(Three Year Budget)			
Budget	Accrued Expenditures	Balance to Complete	**
\$823,244	\$823,244	(\$0)	
75,456	21,328	54,128	**
\$898,700	\$844,572	\$54,128	

rolls-up into the Task level.

t.)

Quarterly Programmatic Report

No. 6

Program Manager: Spencer Shepherd **Phone:** (415) 778-0999 (x24)
Project Manager: Loren E. Clark
CALFED Project # 97-N05
Quarter Ending: September 30, 2000

Deliverables

Task	Name of Deliverable	Due Date ¹	% of Work Complete	Date Deliverables Complete
A	Development of Plan Objectives		100%	October 1999
B	Watershed Assessment		70%	Not Complete
C	Land Use Analysis		60%	Not Complete
D	Conflict Identification		0%	Not Complete
E	Prioritization of Restoration Projects		0%	Not Complete
F	Develop Implementation Strategies		0%	Not Complete
G	Monitoring Program		0%	Not Complete
H	Implementation Schedule and Budget		0%	Not Complete
I	General Project Administration		0%	Not Complete

Narrative

1. Description of activities performed during the quarter, by task.
2. Problems and delays encountered by task.
3. Other issues or comments.
4. Please identify your projected expenses for each of the next three months in the following quarter to assist in the timing of State bond sales that fund this project.

Month 1: \$5,000 Month 2: \$5,000 Month 3: \$10,000 Total for Quarter: \$20,000

¹ The task dates have been intentionally omitted. A change in schedule is necessary, but has not been approved by the National Fish & Wildlife Foundation.

Narrative Explanations

Quarterly Activities

Task B

WRC Environmental, ERP Consultant, has begun work on the Ecosystem Restoration Plan. A workplan schematic can be found in Attachment One.

On July 18th, the CRMP-Sponsored Land-Use Work Group held a meeting to establish land use assessment time lines and unified land use categories for assessment. Access to information from local communities is imperative. The CRMP-Sponsored Water Quality Work Group has been organized and is preparing for an initial meeting in October.

The Technical Advisory Committee membership has been finalized:

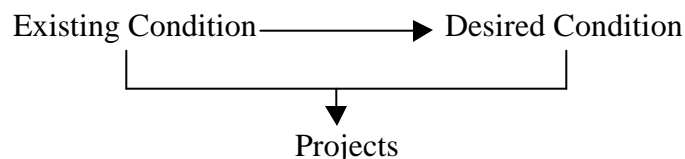
First Name	Last Name	Organization Name	City
Randy	Bailey	Bailey Environmental	Lincoln
Loren	Clark	Placer County Planning	Auburn
Lorna	Dobrovolny	resident	Newcastle
Rich	Gresham	Placer Co. RCD	Auburn
Cliff	Heitz	Placer Co. RCD	Auburn
Terry	Mayfield	Nevada Irrigation District	Grass Valley
Schmidt	Christopher	Placer County Planning	Auburn
Gordon	Seck	Placer Co. Fish & Game	Auburn
Weygandt	Robert	County Supervisor	Auburn
Mal	Toy	PCWA	Auburn

An initial TAC Meeting was held on August 29. Some basic issues were covered:

- What will the study look like?
- What is the decision making process?
- How will adoption be achieved?
- Who needs to review?

Achieving consensus amongst all the agencies is a primary goal, but one that may not be attainable. The process of agency adoption or endorsement was discussed. If the ERP recommended policies are controversial, some agencies may not even present the plan for a vote. It is imperative that as the ERP process goes forward, that all agencies stay involved. Controversial items need to be discussed in advance, during the TAC meetings.

Generally, the ERP must be pragmatic. It will be a management plan, with an atlas of data. The basic framework of the EPR is:



Projects will be a list of opportunities to fund and implement in the future.

A critical component of the ERP is the utilization of citizen focus groups. Focus group membership is being formulated by the TAC, County and WRC. It is anticipated that two, eight person groups will be formed with an initial meeting in late October/early November. Citizen participation and feedback is necessary for project guidance and ultimately public acceptance.

In a TAC/CRMP effort, a public meeting was held on September 12, 2000 at the Mt. Pleasant Grange Hall. 1,500 letters were mailed to property owners adjacent to the Auburn Ravine or Coon Creek in Placer County and to 38 homeowners in Sutter County (see Attachment Two). The meeting was used to discuss the upcoming ERP project, to listen to residents and their concerns, and to invite the public to be involved in the process. 78 residents attended the meeting (sign-in sheets can be found in Attachment Three). A summary of comments received is in Attachment Four). Primary issues were private property rights, water rights, waste water discharges, fish passages, flood control, and habitat restoration. This information will be discussed and used by WRC, the TAC and CRMP group. There is a general fear of information collected will be used to create additional regulations. The summary of comments was attached to a follow-up letter sent to participants (see Attachment Five).

A second TAC meeting was held on September 25. Citizen Focus Group membership was discussed at length. It was agreed that two groups representing the upper and lower watersheds is necessary. TAC members are being asked to submit names for consideration. Ideally the groups would consist of the following:

Lower Watershed:	2 from Agriculture	Upper Watershed:	1-2 Developers
	1 from City of Lincoln		1-2 Env. Field
	1-2 Developers		1 from Agriculture
	1-2 Env. Field		1 Business Person
	1 from Teichert Corp.		1 from Bickford Ranch
			1 from Urban Forestry Sub-Committee

Task B

WRC-Environmental Project work has reviewed baseline data and map files, collected an initial evaluation of regional climatological data, an initial review of water quality issues and concerns, an initial review of fishery/habitat issues, a review of soils and geologic information, a review stream channel network parameters, and the initial organization of land use base information for hydrologic assessment.

Problems and Delays – There are have been no problems or delays incurred during the reporting period. Amendment of the approved schedule is necessary to reflect the late start in obtaining the services of WRC Environmental. The County will initiate this process during the next reporting period.

Other Issues or Comments – An invoice for work completed to date is being prepared under separate cover.

QUARTERLY PROGRAMMATIC REPORT

Program Manager Spencer Shepherd Phone 415-778-0999 x 24
 Project Manager Graham Matthews
 CALFED Project # 97-N07
 Quarter Ending 9/30/00

		Deliverables		
	<u>Name of Deliverable</u>	<u>Due Date</u>	<u>% of Work Complete</u>	<u>Date Deliverable Complete</u>
Task 1	Final Report*	02-01-00		
Subtask 1	Compile Existing Information	06-30-99	100%	----
Subtask 2	Channel Survey	09-30-99	100%	----
Subtask 3	Hydrologic Analysis	11-30-00	90%	----
Subtask 4	Geomorphic Analysis	11-30-00	90%	----
Subtask 5	Final Report Preparation	11-30-00	50%	----

* The only deliverable for this task is the final report describing study methods, data collected, data analysis, and conclusions. An extension was requested and received to complete analysis and final report preparation into FY2000.

Task 2				
Subtask 1	Detailed Site Surveying (site maps)	11-01-98	100%	----
Subtask 2	Design Development		10%	----
	Construction drawings	12-31-00		
	Design memorandum	12-31-00		
Subtask 3	Implementation Coordination (Copies of permits applications)	12-31-00	0%	----

Narrative

1. Description of activities performed during the quarter, by task.

TASK 1:

Sub-Task 1: Compile Existing Information

This task was completed in a previous quarter.

Sub-Task 2: Channel Surveys

This task was previously completed.

Sub-Task 3: Hydrologic Analyses

No work was performed this quarter.

Sub-Task 4: Geomorphic Analyses

No work was performed this quarter.

Sub-Task 5: Geomorphic Report

No work was performed this quarter, but we are expecting to complete the geomorphic report by November 2000.

TASK 2:

No work was performed this quarter.

2. Problems and delays encountered by task.

Due to scheduling problems no work was accomplished on this project during this quarter. Other projects were in construction this summer and fall and those were given priority. In addition, staffing changes have hindered progress on report and design. As the construction season winds down, this project will receive highest priority.

3. Other issues or comments.

4. Please identify your projected expenses for each of the next three months in the following quarter to assist in the timing of State bond sales which fund this project.

Month 1 \$ 2000 Month 2 \$ 5,000 Month 3 \$ 15,000 Total for quarter \$ 22,000

CALFED Project Name: Cottonwood Creek Geomorphic Analysis Bengard Ranch
Recipient: Graham Matthews & Associates
CALFED Project # 97-N07

Budget Year: 2000
Statement Quarter: 4

Total Estimated Cost of Phase I: \$71,000
Funding from Federal Bay-Delta Account 61,000
Funding provided by private landowner 10,000

Phase I schedule 1 year
Projected Phase II schedule 1 year
Total Project Estimated Completion Date: 2 years

Phase I Schedule		1 year		PHASE I (Quarterly Budget)				PHASE I (FY '99 Budget)				PHASE I (Three Year Budget)			
Projected Phase II schedule		1 year													
Total Project Estimated Completion Date:		2 years													
			Budget	Accrued Expenditures	Variance	**	Budget	Accrued Expenditures	Remaining Balance	**	Budget	Accrued Expenditures	Balance to Complete	**	
Task 1: Geomorphic Analysis			\$3,100	\$0	\$3,100		\$24,267	\$18,951	\$5,316		\$32,000	\$25,584	\$6,416		
Schedule: FY '98 through FY '99															
Percent Work Complete for Task															
1a	Compile Existing Information	85%	0	0	0		1,200	1,200	0		3,000	3,000	0		
1b	Channel Geometry		0	0	0		6,667	6,667	0		10,000	10,000	0		
1c	Hydrologic Analysis		0	0	0		400	400	0		3,000	1,900	1,100		
1d	Geomorphic Analysis		3,100	0	3,100		12,000	10,684	1,316	**	12,000	10,684	1,316		
1e	Report Preparation		0	0	0		4,000	0	4,000	**	4,000	0	4,000		
Task 2: Channel / Riparian Restoration Design			\$0	\$0	\$0		\$29,000	\$3,990	\$25,010		\$29,000	\$3,990	\$25,010		
Schedule: FY '98 through FY '00															
Percent Work Complete for Task															
2a	Detailed Site Mapping	14%	4,000	0	4,000		6,000	3,990	2,010		6,000	3,990	2,010		
2b	Design Development		4,000	0	4,000		19,000	0	19,000		19,000	0	19,000		
2c	Project Implementation Coordination		0	0	0		4,000	0	4,000		4,000	0	4,000		
Phase I Total:			\$3,100	\$0	\$3,100		\$53,267	\$22,941	\$30,326		\$61,000	\$29,574	\$31,426		

We budget to the Sub-task level only if they are active during the Quarter in question. If a subtask is complete, the subtask cost rolls-up into the Task level.

** Please explain significant variance.

**** Explanation of Variance in Budget :**

Due to scheduling problems no work was accomplished on this project during this quarter.

Quarterly Programmatic Report Mill Creek Restoration Project

Program Manager Spencer Shepard Phone: 415-778-0999
 Project Manager Meghan Mazzoni Phone: 415-281-0432
 CALFED Project # #97-N08
Quarter Ending – September 2000

Deliverables

<u>Deliverable</u>	<u>Due Date</u>	<u>% Completion</u>	<u>Date Complete</u>
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Task 1 – Site Planning & Preparation (due date extended to June 2000)

Subtask 1: Site Acquisition

#1 – Real-estate Option	1/99		1/8/99
#2 – Copy of Deed	3/00		4/12/99
Draft Conservation Easement	3/00		1/3/00
#3- Letter of Assurance	3/00		1/3/00

Subtask 2: Site Planning

#1 – Site Plan	2/99		2/9/99
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Subtask 3: Site Preparation

#1 - Completion of Site Prep	3/2000		Completed
#2 - Draft and final subcontracts	3/2000		Completed
#3 - Summary report	6/2000		6/29/00

*TNC extended deadlines for Task One to provide more time to plant native grass and replant plants which did not survive year 1.

Task 2 – Planting and Irrigation Installation (due date extended to June 2000)

Subtask Plant collection and propagation

#1 – Plant collection and prop	4/99		3/99
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Subtask 2: Irrigation

#1 - Install Irrigation System	3/99		3/99
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Subtask 3: - Planting

#1 – Plant Summary Report (Include Irrigation Map)	6/99	1/3/99
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Task 3 – Maintenance and Monitoring

Subtask 1 Maintenance

#1 Quarterly report	6/30/01	Pending
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Subtask 2 Monitoring

#1 Monitoring protocol	5/99	Draft submitted
#2 Annual monitoring reports	6/01	Pending

NARRATIVE

Task 1 : Site Planning and Preparation

The Nature Conservancy completed acquisition of the site on Dec. 28,1998. The deed was recorded and the draft easement is completed. The site plan was submitted to NFWF on 2/9/99.

Task Order One was modified to include planting native grass at the site. Seed (*Elymus glaucus*) was planted in the fall and we observed excellent germination in late January. The grass planting went dormant during this past summer but it still appears to be thriving as of this report.

Task 2 – Planting and Irrigation Installation

Because Valley Oak did not produce acorns in 1998, acorn planting was put off until fall and winter 1999. Acorns were collected in the fall of 1999 from the site and nearby areas in anticipation of planting. In early mid December 1999 students from the Los Molinos School District planted valley oak acorns and installed “milk carton” tree protectors. In early February 2000, 50 non-oak species were re-planted including cottonwood, arroyo willow and sandbar willow. In May, 100 elderberry, 20 wild rose, 160 coffee berry plants were replanted. Any empty planting positions found in this November's census will be planted with valley oak acorns since they require less irrigation than other species.

Task 3 – Maintenance and Monitoring

The site continues to be mowed for weed control and the irrigation system has been kept in good repair. The irrigation system was modified this past summer to improve distribution of the water. We continue to have trouble with rodents eating holes in the drip irrigation lines and consuming young plants.

The site was monitored on June 27, 2000 to determine survival rates. The levee plantings (riparian) now have 53% survival. Survival in the interior field is 37%. An informal survey of the property in September indicates similar survival. As the field was overstocked in the initial planting the results indicate reasonable survival rates and give us confidence this planting will be a long term success.

Projected expenses for next quarter

Month 1	Month 2	Month 3	Total
---------	---------	---------	-------

budget was based on large-scale project costs and because this project is so small TNC has found unanticipated cost-savings (example: able to use existing well, lower project management costs, more comprehensive use of volunteers). Also, TNC was fortunate to experience good growing conditions.

Budget year: 2000

Statement Quarter: Sep-00

PHASE I

(Three Year Budget)

Budget	Accrued Expenditures	Balance to Complete	**
--------	-------------------------	------------------------	----

12,999	4,102	8,897	
657	657	0	
3,727	1,219	2,508	
8,615	2,226	6,389	

31,012	6,654	24,358	
5,540	2,021	3,519	
11,540	2,021	9,519	
13,932	2,613	11,319	

24,989	8,288	16,701	
18,033	5,476	12,557	
6,956	2,812	4,144	

\$69,000	\$19,043	\$49,957	
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up into the

QUARTERLY PROGRAMMATIC REPORT

Number 8

Program Manager: Spencer Shepherd Phone: 415-778-0999 x24
Project Manager : Pamela Muick Phone: 707-432-0150
Calfed Project # 97-N10
Quarter Ending: 9/30/00

Deliverables

Deliverable name	Due date	% of work complete	Date deliverable complete/ submitted
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Task 1. Administration

Subtask 1. Administrative reports

Deliverable: 7/1/00 –9/30/00 Quarterly
Report

Task 2. Material Acquisition

Deliverable: Invoice 11

Task 3. Monitoring Program

Subtask 1. Aquatic Monitoring Program

Deliverable 1. Fish Baseline	6/15/01	5
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Deliverable 2. Aquatic habitat baseline	6/15/01	5
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Subtask 2. Riparian Restoration

Deliverable 2. Riparian Restoration	8/31/99	90
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Monitoring Report

Task 4. Conservation Planning

Subtask 1. Conservation Planning

Deliverable 2. Biological assessment	4/30/99	5
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Deliverable 3. Develop restoration criteria	4/30/99	0
---	---------	---

Deliverable 4. Report restoration potential	5/31/99	0
---	---------	---

Deliverable 5. Threats and opportunities	5/15/00	0
--	---------	---

analysis

Deliverable 6. Draft Site Conservation Plan	5/15/00	0
---	---------	---

Deliverable 7. Final Site Conservation Plan	7/15/00	0
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Task Order 6. Riparian Restoration		85
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Task Order 7.

Deliverable 5. Eucalyptus Removal	8/31/99	5
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Narrative

Task Order 1. Administration

Subtask 1. Quarterly Report

Complete for quarter ending 9/30/00.

Task Order 2. Materials Acquisition

Invoice 11 (September 2000) complete.

Task Order 3. Monitoring Program

Subtask 1. Aquatic Monitoring Program

Deliverable 1 Fish Baseline and Deliverable 2 Aquatic Habitat Baseline

Deliverables 1 and 2 will begin this fall. SCFOSF staff prepared a 'Request for Proposals' (RFP) to be sent out to qualified firms and individuals. In short, the RFP outlines the work and product expected of the successful bidder. This includes three sampling events at four sites each to be carried out beginning Fall 2000 and completed before the end of Spring 2000. Sampling will include a fish and macroinvertebrate inventory. The aquatic habitat baseline will include numerous parameters including flow, temperature, turbidity, riparian community types, overall condition, and recommendations for future restoration.

Subtask 2. Riparian Restoration

Deliverable 2. Riparian Restoration Monitoring Report

The land steward will return to the restoration sites along Barker Slough and spend four days monitoring the progress of the 1998 restoration efforts. A monitoring report will be included in the next quarterly report.

Task Order 4. Conservation Planning

The Conservation Planner has completed a draft strategy to protect the vernal pools of the Greater Jepson Prairie Ecosystem. This work is funded by a grant from the U.S. Environmental Protection Agency and the Trust for Public Land. The project complements the objectives CALFED by protecting vernal pool properties that, because of their location, will serve as buffers to the larger watershed of which Barker Slough and Calhoun Cut are a part. In addition, the vernal pool project will contribute to the Conservation Planner's ability to draft science based conservation easements that are effective from SCFOSF's and the landowner's perspectives. This knowledge will be applied toward the final Site Conservation Plan, which will undoubtedly require the use of easements.

Two conservation easements in the Jepson Prairie area are currently being pursued. The first, a 1429-acre ranch rich in vernal pools and part of the larger watershed, has been a focal point for the USDA Wetlands Reserve Program (WRP). WRP is interested in purchasing easements on properties with degraded wetlands that can be restored. Historical plowing on this ranch altered the drainage patterns but did not penetrate the hard claypan that is responsible for the presence of numerous vernal pools and special status species. The second, a 3114-acre ranch also rich in vernal pools and part of the watershed, has been optioned by a private individual. However, if at the end of the six month option the buyer does not purchase the land, it will be a target of SCFOSF and The Nature Conservancy (TNC).

The conservation planner is attempting to secure funding for properties in the Jepson Prairie area by preparing a Conceptual Area Acquisition Plan (CAAP). The CAAP, co-authored by staff from TNC, will be submitted to the state Wildlife Conservation Board (WCB). WCB will review the CAAP at their November meeting.

Deliverable 2. Biological Assessment

SCFOSF staff and one of the Jepson Prairie docents began the biological assessment of Barker Slough and Calhoun Cut in September. A reconnaissance canoe trip was taken to identify portions of the sloughs that are intact and others in need of restoration.

Task Order 6. Riparian Restoration

The remaining funds will be used protect a portion of Calhoun Cut that is currently being degraded through public use. The portion of the slough that borders the west side of Highway 113 is a very popular fishing access point. In the past, this has not been a problem. However, its growing popularity has resulted in degradation of the riparian corridor through tree and shrub removal. To prevent this, the land steward will erect fencing to prevent access to any points further upstream and to repair damaged fences where the site is accessed. Finally, appropriate signage will be used to inform the public of why SCFOSF is taking this action.

Task Order 7. Weed Control, Prescribed Burning, & Eucalyptus Removal

Deliverable 5. Eucalyptus Removal

Insufficient funding has prevented eucalyptus removal. SCFOSF will appeal to the Budget Amendment Subcommittee for increased funding at the next roundtable meeting. The job was underbid to begin with and rates have increased in the intervening years. SCFOSF feels the job should be done in a manner that is complete and will not require future work. To do this, the standing trees must be removed and the stumps ground to ground level.

Projected expenses

Projected expenses for upcoming quarter

Month 1: \$ 3,000

Month 2: \$ 6,000

Month 3: \$ 4,000

Total for quarter: \$ 13,000

QUARTERLY PROGRAMMATIC REPORT

Program Manager Spencer Shepherd Phone 415-778-0999 x 24
 Project Manager Becky Waegell
 CALFED Project # 97-N14A
 Quarter Ending September 30, 2000

Deliverables			
	Name of <u>Deliverable</u>	Due <u>Date</u>	% of Work <u>Complete</u>
Task 1	Acquisition of 2947 acres in Cosumnes River lower floodplain		
			100%
Task 3	Initial Management Activities		
			approx 50%
	Subtask 1 Surveys and Restoration Plan		
	Deliverable 1 Final reports on Archeological and Historical Surveys		complete
	Deliverable 2 Final reports on Biological Surveys		ongoing
	Deliverable 3 Restoration Plan for Park, Whaley		ongoing
	Deliverable 4 Riparian, rangeland and bird monitoring plans		ongoing
	Deliverable 5 Drafts and final of subcontracts		ongoing
	Subtask 2 Infrastructure Improvements		
	Deliverable 1 Invoices from cleanup and demolition of Castello Dairy (Park property)		complete
	Deliverable 2 Invoices from fence construction on Park property		ongoing
	Deliverable 3 Invoices from erosion control project		ongoing
Task 4	Purchase of Additional floodplain and floodplain-linked properties (including Woods property)		
	Subtask 1 Woods Acquisition		100%
			9/99
	Deliverable 1 Survey/ HazMat cover page		9/99
	Deliverable 2 Closing Statement		9/99
	Deliverable 3 Copy of Deed		9/99

Deliverable 4 Easement or Assurance letter

pending resale/transfer

Subtask 2 Service Contracts – stewardship Woods property

Deliverable 1 Vendor invoices 12/00

Ongoing

Deliverable 2 Preliminary site plan 12/00

Ongoing

Deliverable 3 Monitoring report 12/00

Ongoing

Narrative

1. Description of activities performed during the quarter, by task.

Task 1: Acquisition of 2,947 acres in the Cosumnes River's lower floodplain.

Acquisitions complete. Final report submitted with 1999, 3rd quarter, Programmatic Report.

Task 3: Initial clean-up and repair of 5 properties and installation or repair of irrigation systems. Conduct initial biological monitoring and archeological surveys.

-Subtask 1 has been signed.

- Biological monitoring subcontract has been signed, and biological monitoring work has been completed on Park, Whaley, Denier, and Shaw properties. All draft reports have been submitted, reviewed and returned to contractor with corrections.
- Biological monitoring subcontract has been amended to include invasive weed survey, riparian restoration manual, restoration plan for Park property north of river, and Elderberry Habitat Conservation Plan. Amendment has been approved by CALFED and signed by both The Nature Conservancy and May Consulting.
- Archeological field work has been completed.

-Subtask 2 has been signed.

- Clean-up of the Castello dairy (Park property) has been completed.
- Fencing contract has been signed. Work has begun, but was delayed due to fire hazard. Work should be complete by end of calendar year.
- Pipeline installation RFB package has been approved by CalFed will send out for bid in fall.
- Erosion control work has been completed. Contract will be complete once we receive invoices and payments are made.

Task 4: Complete Purchase of additional floodplain and floodplain linked properties, including the Woods property (153 acres). -Task Order 4 has been signed by CalFed.

-Subtask 1 The Woods property has been purchased protecting seasonal wetlands and grassland habitat.

0900prpt

11/02/009:01 AM

-Subtask 2 The Woods property stewardship. Initial site visits by TNC staff have been completed. Management options for the site are currently under consideration.

Task 4 A request for modification to Task Order #4 was submitted to NFWF on 5 September, 2000. The modification, if approved, would budget for the acquisition of the Richard, Kathy, and Fred Denier property. This acquisition project would help to protect existing riparian, wetland and aquatic habitats along the Cosumnes River, and in so doing, will provide positive benefits for east-side delta tributary fall-run chinook salmon, splittail and other targeted delta species .

The property consists of rectilinear 475 acre parcel which is bisected lengthwise by approximately one mile of Cosumnes River channel. Restoration of the floodplain through levee breaching and other techniques will benefit the same suite of species discussed above. The property is presently under a six month option (exercise date is no later than mid December 2000). The sale price is \$1.9 million (supported by an appraisal), to which we would propose that approximately \$732,000 of this grant be dedicated. These funds would be supplemented with funds from another CALFED grant and additional funding. Acquisition of this property would help complete linkage of the lower protected floodplain to the Valensin ranch portion.

2. Problems and delays encountered by task:

3. Other issues or comments:

4. Projected expenses for the next three months (Calculations do not include acquisition of Denier property, as task order is not yet signed):

Month 1 \$20,000 Month 2 \$18,000 Month 3 \$ 20,000 Total for quarter \$ 58,000

Title COSUMNES RIVER FLOODPLAIN ACQUISITION AND MANAGEMENT

Budget year: 30-Sep-00

Co-applicants: Nature Conservancy/Wildlife Conservation Board
CALFED Proj. #: 97N14A

Statement Quarter: 30-Sep-00

Total Estimated Cost of Phase I: \$1,985,100
Funding from Federal Bay-Delta Account \$1,985,100

(In-Kind Services would be listed here if applicable- note: Detail of the service provide would be included.)

Phase I schedule 3 years

Total Project Estimated Completion Date 3 years		PHASE I (Quarterly Budget)				PHASE I (FY '00 Budget)				PHASE I (Three Year Budget)			
		Accrued				Accrued Remaining				Accrued Balance to			
		Budget	Expenditures	Variance	**	Budget	Expenditures	Balance	**	Budget	Expenditures	Complete	**
Task 1:	Acq. Of 2,947 Acres - Cosumnes	\$0	\$0	\$0		(\$453)	(\$453)	\$0		\$39,466	\$39,466	\$0	
Task 3:	Mgmt Activities Park, Whaley, Denier, Shaw												
	Subtask 1: Initial Management Activities	\$15,000	\$10,874	\$4,126		101,250	54,184	\$47,066		135,000	55,808	\$79,192	
	Subtask 2: Infrastructure Improvements		\$0	\$0		230,610	80,924	\$149,686		307,480	90,924	\$216,556	
Task 4:	Acquisition, additional floodplain properties												
	Subtask 1 Woods Acquisition	\$0	\$0	\$0		\$461,050	\$463,422	(\$2,372)		461,050	463,422	(\$2,372)	
	Subtask 2 Woods Stewardship	\$2,000	\$1,527	\$473		56,850	1,646	\$55,204		75,800	1,646	\$74,154	
	Transfer of funds from Task 1									12,294	0	\$12,294	
Phase I Total:		\$17,000	\$12,401	\$4,599		\$849,307	\$599,723	\$249,584		\$1,031,090	\$651,266	\$379,824	

We budget to the Sub-task level only if they are active during the Quarter in question. If a SUBTASK is complete, the SUBTASK cost rolls-up into the Task level.

** Explanation of Variance in Budget :

Task 1- Expenditures have been reduced by those amounts incurred prior to 1/1/98 and costs not budgeted

Task 4- Acquisition costs on Woods property exceeded budget

QUARTERLY PROGRAMMATIC REPORT

Program Manager Spencer Shepherd Phone 415-778-0999 x 24
 Project Manager Carl Mesick
 CALFED Project # 97-N21
 Quarter Ending September 30, 2000

		Deliverables		
	<u>Name of Deliverable</u>	<u>Due Date</u>	<u>% of Work Complete</u>	<u>Date Deliverable Complete</u>
Task 1				
Subtask a	Draft EMP	07-17-98	100%	07-17-98
Subtask a	Final EMP	1 month after receiving comments	100%	10-23-98
Subtask b	Access Agreements	10-20-98	100%	10-23-98
Subtask c	Agency Site Approval	10-20-98	100%	10-23-98
Subtask d	Quarterly Report	Quarterly	66%	10-05-00
Subtask e	Draft EGP Subcontract		100%	08-08-98
Subtask e	Final EGP Subcontract	Prior to beginning Task 4	100%	
Subtask e	Draft MBKCE Subcontract		100%	12-02-98
Subtask e	Final MBKCE Subcontract	Prior to completing Task 2	100%	12-18-98
Task 2				
Subtask 1	Notification of when applications have been submitted	5 months prior to beginning Task 4 Construction	100%	03-31-99
Subtask 2	Notification of when permits have been received	Prior to beginning Task 4 Construction	100%	08-15-99
Subtask 3	Copies of final environmental documentation & permits	Prior to beginning Task 4 Construction	100%	06-16-00
Task 3				
Subtask 1	Pre-Project Draft Evaluation Report	05-31-00	99%	08-15-00
Task 4				

Subtask 1	As-built streambed profiles	11-30-99	100%	11-23-99
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Deliverables				
	Name of <u>Deliverable</u>	Due <u>Date</u>	% of Work <u>Complete</u>	Date Deliverable <u>Complete</u>
Task 5				
Subtask 1	1 st Year Post Project Evaluation Report	09-30-00	85%	
Task 6				
Subtask 1	2 nd Year Post Project Evaluation Report	09-15-01	16%	

Narrative

1. Description of activities performed during the quarter, by task.

Task 1. All subtasks, except for the Quarterly Reports, have been completed. Carl Mesick Consultants produces the quarterly reports without charge for this task.

Task 2: Environmental Documentation and Permitting. All permits and licenses have been obtained and delivered to NFWF and CALFED.

Task 3: Pre-Project Habitat Evaluations. The draft evaluation report was distributed for a 45-day review period and no comments were received. The report will be finalized in the near future and copies will be delivered to NFWF and CALFED. Distribution of the final report was delayed because Dr. Mesick was asked to assist with writing the draft CALFED Salmonid White Paper, which had a deadline of 30 September 2000.

Task 4: Gravel Placement. A final report was delivered to NFWF and CALFED on 23 November 1999. Delivery of this report completed this task.

Task 5: First-year Post-Project Habitat Evaluations. Production of the draft evaluation report will begin in November 2000. Some of the results of this task were presented at the CALFED Science Conference in Sacramento on 3 October 2000. The presentation was well received and Dr. Michael Healey of the CALFED Interim Science Board cited this work in his 4 October presentation as a good example of how restoration projects should be designed to meet CALFED's objective of adaptive management.

Task 6: Second-year Post-Project Habitat Evaluations. The task order was expanded to include measurements of apparent velocity, which will investigate how the rate of water flow through artificial and actual salmon nests changes over time in response to fine sediment intrusion relative to managed high flows, storm runoff, and redd superimposition. Field work began on 17 September 2000 and work is proceeding as planned.

2. Problems and delays encountered by task.

Task 2: None.

Task 3: The completion of this task was delayed by the need to prepare an oral presentation on this project for the CALFED Science Conference 2000, 3-5 October and due to a request to assist with the writing of the draft CALFED Salmonid White Paper, which was due on 30 September 2000.

Task 4: None

Task 5: The production of the report for this task was delayed for the reasons cited for Task 3 and by the unexpected response of the salmon, most swam upstream and ignored the downstream sites, which greatly complicated the statistical analysis. Work on the Task 5 report will begin in November 2000 after completing the initial setup for the Task 6 field work, which includes constructing about 100 artificial salmon nests with sampling wells and piezometers as well as mapping the streambed elevations with a total station.

Task 6: None

3. Other issues or comments.

4. Please identify your projected expenses for each of the next three months in the following quarter to assist in the timing of State bond sales which fund this project.

Most of the upcoming field work for Task 6 will be billed to the Stockton East Water District.

Month 1 \$5,000, Month 2 \$10,000, Month 3 \$10,000.

Total for quarter \$25,000.

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT

Date of this Report: October, 2000

Contract Number: 1425-98-AA-20-16950

CALFED Number: 98-2015000-00096

Contract Agency: USBR

Contractor: USGS

Programmatic/Technical Contact: Samuel N. Luoma Phone/Fax Numbers: 650 329-4481
650 329-4545

Financial Contact: Russell Graham Phone/Fax Numbers: 650 329-4453
650 329-4463

Project Title: Assessment of the Impacts of Selenium on Restoration of the San Francisco Bay-Delta
Ecosystem

Project Location: Menlo Park, CA

Term of the Contract: September 1998 June 30, 2001

_____ Initiation Date of Project Completion Date of Project

Listing of each task (by title) and percentage complete:

1. Determine contributions of Se to the Bay-Delta from rivers, refineries, agricultural inputs and recycling from sediments. Determine how contamination is influenced by river inflows.

90% complete.

2. Biomonitoring selected prey species.

80% complete

3. Bioaccumulation of different forms of Selenium.

90% complete

4. Models

60%

Completion of milestones/tasks/deliverables (status):

1. Determine contributions of Se to the Bay-Delta from rivers, refineries, agricultural inputs and recycling from sediments. Determine how contamination is influenced by river inflows.

The following abstract, presented at the First CALFED Bay-Delta Program Science Conference, presents results from this element to date.

Selenium in the San Francisco Bay and Delta: Historical trends and present status

G.A. Cutter, L.S. Cutter, M. Doblin, and S. Meseck, Department of Ocean, Earth

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT

and Atmospheric Sciences, Old Dominion University, Norfolk, VA 23529-0276

Selenium exists in multiple oxidation states and its bioavailability depends on this chemical speciation. Thirteen years ago our first measurements of dissolved Se in the San Francisco Bay established that selenite (SeIV) showed mid-estuarine input, while selenate (SeVI) and organic selenide (Se-II) had a mixture of input and removal, depending on river flow rate (residence time). Furthermore, selenite was introduced by effluents from oil refineries, while organic selenide and selenate were largely delivered by the Sacramento River (SR). However, high concentrations of selenate (>50x SR) and organic selenide (>30x SR) were found in the San Joaquin River, entering the Bay via the Delta. Because of concerns over the effects of se on food web restoration accumulation of Se in the foodweb], we have been re-examining the Se cycle in the Delta and Bay with funding from CALFED. While the concentrations of total dissolved Se in the Bay are nearly unchanged over 13 years, the abundance of selenite has decreased (from 45 to 25% of the total), perhaps from changes in oil refinery effluents. Se in suspended particles (seston) is <15% of the dissolved inventories and ranges from 0.1 - 1.7 µg/g, relatively unenriched compared to phytoplankton (1 - 4 µg/g), and zooplankton (0.5 - 6.6 µg/g). SFB seston is comprised not only of Se-rich phytoplankton, but also inorganic particles which effectively "dilute" total particulate Se. Nevertheless, >75% of Se in seston is bioavailable organic selenide. Concentrations of total sedimentary Se at different sites range from 0.2 ug/g to 1.1 ug/g, with highest concentrations in the Delta; elemental Se (up to 80%) and organic selenide (up to 60%) are the major chemical forms. The Se:C ratios in sediments are similar to those in phytoplankton and seston (2.0 to 6.0 x 10⁻⁶), but the predominance of elemental Se likely makes sedimentary Se less bioavailable to benthic organisms than that in seston.

Sample analyses to evaluate effects of the spring phytoplankton bloom on selenium depletion from the water column continues as does monthly sampling of particulate and dissolved Se concentrations in Carquinez Straits continues.

2. Biomonitoring selected prey species.

The following abstracts were presented at the First CALFED Bay-Delta Program Science Conference, and represent results from this element to date.

Seasonal and Temporal Trends of Zooplankton Selenium Concentrations in San Francisco

BayDavid G. Purkerson¹, Martina A. Doblin³, Samuel N. Luoma², Stephen M. Bollens¹, and Gregory A. Cutter.

The potential toxicity of elevated selenium concentrations in San Francisco Bay has stimulated efforts to measure selenium concentrations in benthos, nekton and waterfowl. In August 1998, we initiated a field study to determine the concentration of selenium in San Francisco Bay zooplankton. This study is the first to quantify concentrations in zooplankton, which play a major role in the food web of the bay. Our specific goals were to determine effects of flow regime (high vs. low freshwater flow) and proximity to sources (e.g. oil refineries and agricultural run-off) on spatial and temporal variations in zooplankton selenium concentrations in North San Francisco Bay. Monthly vertical plankton tows were collected at several stations using a 73 mm mesh ring net. Zooplankton samples were immediately separated into four operationally-defined size classes: 73-250 µm, 250-500 µm, 500-2000 µm, and greater than 2000 µm. Two hours were allotted for gut depuration prior to freezing, and selenium concentrations were subsequently determined by atomic absorption spectroscopy. Based on thirteen months of samples analyzed thus far, concentrations ranged from 0.45 mg Se. g⁻¹ dry weight up to 6.07 mg Se. g⁻¹ dry weight. There were no significant spatial differences found in zooplankton Se concentrations. There were also no significant

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differences in Se concentrations between size classes of zooplankton except between the two smallest size groups (73-250, 250-500 mm) and the largest size group (>2000 mm). Selenium concentrations were significantly higher in the North Bay during the fall of 1999 than found in the spring of 1999, indicating a possible increase in zooplankton Se concentration as Delta inflow is lowest and residence time increased.

BIOACCUMULATION OF SELENIUM IN THE FOOD WEB OF SAN FRANCISCO BAY: IMPORTANCE OF FEEDING RELATIONSHIPS

Stewart*, A.R., S.N. Luoma, USGS, 345 Middlefield Rd., Menlo Park, CA, 94025, M., Doblin, Department of Ocean Sciences, Old Dominion University, 4600 Elkhorn Ave, Norfolk, VA, K., Hieb, California Department of Fish and Game, Central Valley Bay-Delta Branch, 4001 N. Wilson Way, Stockton, CA, 95205, K., Miles, Biological Research Division, USGS, UC Davis, CA, 95616

Elevated selenium (Se) concentrations in San Francisco Bay (SFB) in the bivalve, *Potamocorbula amurensis*, and benthivorous diving ducks (e.g. Scaup) and selected fish indicate that Se contamination could impede restoration of some fish populations. A study of the trophic transfer of Se through the SFB food web was designed to identify which species were most threatened by Se. In 1999, higher selenium concentrations were found in a bivalve-based food web than a crustacean-based food web. Se bioaccumulation was also location-dependent, apparently influenced by sources within the estuary. Stable isotopes identified feeding relationships within the food webs and general feeding ranges: ¹³C identified sources of organic matter and varied with position in the estuary; ¹⁵N identified predator/prey relationships and the effect of organic matter recycling on Se in bivalves; and ³⁴S identified feeding locations and migratory ranges of fish in the estuary. Sample collection for trophic relationships was restricted to fall 1999, to control for seasonal variations in stable isotopes and Se accumulation. The suspension feeding amphipod *Corophium* had similar ¹⁵N values to *Potamocorbula* suggesting a similar trophic position in the food web, but amphipods were also enriched in ¹³C by 2 per mil indicating a difference in food source. Isopod species appear to be feeding at a higher trophic level (3 per mil) than the amphipods and clams, but share a similar carbon source with the amphipods. Clams had 10-fold higher Se concentrations than both amphipods and isopods. Scaup from SFB were approximately 3 per mil higher in ¹⁵N than clams and the range of ¹³C values spanned those for clams. Se concentrations varied widely in Scaup flesh (0.7-9.3 microgram Se/g). The highest Se concentrations were in individuals feeding on clams (as indicated by ¹⁵N).

Bioaccumulation of different forms of Selenium.

The following paper (abstract) was accepted for publication in the prestigious journal, *Marine Ecology Progress Series*.

Assimilation of selenium from phytoplankton by three benthic invertebrates: Effect of phytoplankton species.

Christian E. Schlekert*, Byeong-Gweon Lee, and Samuel N. Luoma

Phytoplankton are an important source of selenium for aquatic invertebrates, which accumulate selenium primarily through dietary ingestion. Variability in selenium bioavailability among different phytoplankton species is poorly understood for invertebrates. We measured the efficiency with which three benthic invertebrates assimilated ⁷⁵Se from five phytoplankton species using standard pulse chase techniques.

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The invertebrates included the amphipod *Leptocheirus plumulosus*, and the bivalves *Macoma balthica* and *Potamocorbula amurensis*. The phytoplankton species included *Cryptomonas* sp. (Cryptophyceae), *Gymnodinium sanguinem* (Dinophyceae), *Phaeodactylum tricornutum* (Bacillariophyceae), *Synechococcus* sp. (Cyanophyceae), and *Thallasiosira pseudonana* (Bacillariophyceae). The range of Se AE by *L. plumulosus* ($32.1 \pm 1.8 - 69.5 \pm 7.1\%$) was the lowest of the three organisms. No relationship was observed between the proportion of Se in algal cell cytoplasm and Se AE by *L. plumulosus*, which is consistent with findings for assimilation of other trace elements by this organism. Se AE by *M. balthica* (range: $58.0 \pm 3.2 - 92.3 \pm 6.0\%$) varied according to the proportion of cytoplasmic Se in algal cells ($p < 0.0001$, $r^2 = 0.868$). *P. amurensis* assimilated between 78.3 ± 2.0 and $88.9 \pm 3.6\%$ of Se from algal cells, and the relationship between cytoplasmic Se and Se AE was described by the following equation:
$$\text{Se AE} = 0.692 + 0.22 \times (\% \text{ cytoplasmic Se}) \quad (p = 0.003, r^2 = 0.405).$$
The y-intercept indicates that *P. amurensis* assimilated non-cytoplasmic Se from phytoplankton, probably through utilization of the glandular digestive pathway. Consistent use of the glandular pathway may explain elevated Se concentrations observed for this organism.

3.5. Four hundred juvenile white sturgeon were obtained and a nontoxic feeding experiment with Se in white sturgeon was conducted in order to develop protocols and characterize background ranges of health parameters. A nine month juvenile toxicity experiment involving feeding regimes of 15, 30 and 45 ug/g Se is presently underway.

4. Models

We have established much of the conceptual model for the associated linkages in determining fate and effects of Se in the Bay Delta. Coefficients for a box model for modeling changes in selenium mass balance in the North Bay are developed and model calculations have begun.

Coordination

Most members of the team were present for a discussion of progress in Sacramento at the CALFED Science Conference in October 2000.

Description of any contract or task order amendments or modifications:

Problems encountered:

None.

Description of benefits/objectives of project achieved:

This project is filling out the picture that will allow us to interpret the ecological effects of Se disposal from the Central Valley. A number of our findings are unprecedented:

- analyses of samples from the delta for Se,
- analyses of Se and its effects in zooplankton combined with experiments to model zooplankton bioaccumulation of Se,
- observation of differing Se uptake among phytoplankton and studies of uptake rates,
- Se effects on sturgeon,
- studies that will allow modeling of Se in the forms that enter from the San Joaquin River (elemental Se)
- continued analysis of the influence of low river inflows.

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT

- analysis and model development for bioavailability to bivalves and zooplankton (the base of the critical food webs)
- food web analysis of which animals in the Bay and Delta will be most susceptible to Se effects.
- development of conceptual and quantitative modeling techniques that will allow us to evaluate the effects of a wide variety of management options on the Se issue.
- Historical comparison of selenium mass balance in North Bay during and after refinery clean-up.
- Demonstration of a legacy effect for bioavailable selenium despite an absence of substantial selenium accumulation in whole sediment samples and an explanation of a plausible mechanism to explain that effect.

Assessment of the Impacts of Selenium on Restoration of the San Francisco Bay-Delta Ecosystem

Applicant: U.S. Geological Survey

CALFED Project Number 98-2015000-00096

USBR Contract: #1425-98-AA-20-16950

Budget year: 2000

Statement Quarter: 4

Total Estimated Cost: \$2,317,494

Funding from Federal Bay-Delta Account \$1,627,117

Funding provided by U.S.G.S \$690,377

Total Project Estimated Completion Date: June 30, 2001

	(Quarterly Budget)			(FY '00 Budget)			(Total, 3 Yr Budget)		
	Budget	Accrued Expenditures	Variance	Budget	Accrued Expenditures	Remaining Balance	Budget	Accrued Expenditures	Balance to Complete
Task 1: Se in Sources and Bay-Delta Waters & Sediments (ODU)	\$0	\$0	\$0	\$0	\$0	\$0	\$299,977	\$299,977	\$0
Task 2: Biomonitoring Prey Species (USGS)	\$42,952	\$130,527	(\$87,575)	\$477,978	\$483,323	(\$5,345)	\$826,544	\$700,187	\$126,357
Task 3: Bioaccumulation and Effects of Different Se Forms (SUNY + UCD)	\$0	\$0	\$0	\$0	\$0	\$0	\$410,596	\$410,596	\$0
Task 4: Models (USGS)	\$0	\$0	\$0	\$0	\$0	\$0	\$90,000	\$0	\$90,000
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total:	\$42,952	\$130,527	(\$87,575)	\$477,978	\$483,323	(\$5,345)	\$1,627,117	\$1,410,760	\$216,357

Funds Provided	\$1,627,117	
Funds Obligated	\$1,410,760	87% of Total Funds Provided
Funds Expended	\$643,323	40% of Total Funds Provided

Labor	\$236,231	Includes Postdoc \$114,408
Contracts (AE)	\$710,573	Cooperagive Agreements
Contracts (Const)	\$0	
Overhead	\$233,728	
Other	\$230,227	
Total	\$1,410,760	

CALIFORNIA BAY-DELTA ENVIRONMENTAL ENHANCEMENT ACT

Individual Project Progress Report *As of Quarter Ending September 30, 2000*

Agency: Reclamation District No. 2060 (Agreement 1425-8-FC-20-16570)

Proposal Description: Cache Slough Shaded Riverine Aquatic Habitat Enhancement Project

Funds Provided \$85,000.00 100% of the Total Funds Provided

Funds Obligated: \$85,000.00 100% of the Total Funds Provided

Funds Expended: \$20,149.00

Labor:	\$0.00
Contracts (AE):	\$20,149.00
Contracts (Constr):	\$0.00
Overhead:	\$0.00
Other:	\$0.00

Physical Progress During the Quarter/Accomplishments. The Corps of Engineers began repairing the erosion sites as of August 1, 2000.

Physical 25% Complete

Comments:

The erosion repair will be completed by October 31, 2000.

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT

Integrated Pest Management Project Quarterly Report #9 Covering the Period from 7/1/00 through 9/30/00

Date of this Report: 10/17/00

Contract Number: Cooperative Agreement 1425-98-FC-20-17300 **CALFED Number:** Proposal # B236

Contract Agency: Bureau of Reclamation

Contractor: Central Contra Costa Sanitary District (CCCSD)

Programmatic/Technical Contact: Harriette Heibel

Phone: (925) 229-7310

Fax: (925) 676-7211

Financial Contact: Debbie Hinkson

Phone: (925) 229-7323.

Fax: (925) 676-7211

Project Title: Integrated Pest Management Partnership to Improve Water Quality in Suisun Bay and Local Creeks

Project Location: Central Contra Costa County

Term of the Contract: 9/1/98 8/31/2001
Initiation Date of Project Completion Date of Project

Description of the Project:

The project promotes Integrated Pest Management (IPM) and increases awareness about the water quality risks of pesticides as a way to reduce the presence of toxic pesticides in Suisun Bay and local creeks. It promotes IPM and raises community awareness about pesticide risks through expanding educational partnerships with stores and Master Gardeners; creating and promoting an educational video; expanding and publicizing IPM strategies used by public gardens; training pest control operators about IPM; and implementing other public outreach strategies.

Fiscal Reporting by Task: See table on the next page.

Total expenditure to date: \$307,782.04

Total expenditure this quarter: \$17,325.60

Total Billed during the Quarter (federal share of total): \$10,084.50

Cost broken out by Object Classification for this contract:

	Total project this quarter	Federal share this quarter	Federal share to date
Labor	\$ 6,036.02	\$3,513.31	\$38,862.48
Contracts (AE)	\$ 0	\$ 0	\$ 0
Contracts (Construction)	\$ 0	\$ 0	\$ 0
Overhead	\$ 1,823.68	\$1,061.49	\$11,974.79
All other	\$ 9,465.90	\$5,509.69	\$128,309.34

Objective(s) to be achieved: The overall project goal is to reduce the presence of toxic pesticides in Suisun Bay and local creeks. See page 4 for a description of benefits/objectives achieved during this quarter.

Fiscal Reporting

Note: the budget below reflects the revised task budgets per the 9/00 grant modification.

	Budgeted/Approved for Funding	Invoiced/Billed to date	Remaining Balance
Task 1 This contract Other (CCCSD) Subtotal Task 1	\$28,521 \$20,479 \$49,000	\$17,877.09 \$12,836.56 \$30,713.65	\$10,643.91 \$ 7,642.44 \$18,286.35
Task 2 This contract Other (CCCSD) Subtotal Task 2	\$96,621 \$69,379 \$166,000	\$ 72,517.76 \$ 52,071.02 \$124,588.78	\$24,103.24 \$17,307.98 \$41,411.22
Task 3 This contract Other (CCCSD) Subtotal Task 3	\$72,757 \$52,243 \$125,000	\$60,861.50 \$43,701.32 \$104,562.82	\$ 11,895.50 \$ 8,541.68 \$ 20,437.18
Task 4 This contract Other (CCCSD) Subtotal Task 4	\$8,149 \$5,851 \$14,000	\$ 840.57 \$ 603.56 \$1,444.13	\$7,308.43 \$ 5,247.44 \$12,555.87
Task 5 This contract Other (CCCSD) Subtotal Task 5	\$11,059 \$7,941 \$19,000	\$1,179.39 \$846.86 \$2,026.25	\$9,879.61 \$7,094.14 \$16,973.75
Task 6 This contract Other (CCCSD) Subtotal Task 6	\$30,267 \$21,733 \$52,000	\$ 25,275.18 \$18,148.73 \$43,423.91	\$4,991.82 \$3,584.27 \$8,576.09
Task 7 This contract Other (CCCSD) Subtotal Task 7	\$11,059 \$ 7,941 \$19,000	\$299.03 \$214.72 \$513.75	\$10,759.97 \$ 7,726.28 \$18,486.25
Task 8 This contract Other (CCCSD) Subtotal Task 8	\$7,567 \$5,433 \$13,000	\$296.12 \$212.63 \$508.75	\$7,270.88 \$5,220.37 \$12,491.25
Total Project This contract Other (CCCSD) Total	\$266,000 \$191,000 \$457,000	\$179,146.64 \$128,635.40 \$307,782.04	\$86,853.36 \$62,364.60 \$149,217.96

Listing of each task (by title) and percentage complete:

The following percentages are based on the billing amount:

Task 1: Project Management: 63%

Task 2: Expand Partnerships with Stores: 75%

Task 3: Partnership with Master Gardeners: 84%

Task 4: IPM video: 10%
Task 5: IPM Strategies Used by Public Gardens: 11%
Task 6: IPM Training for Pest Control Operators: 84%
Task 7: Other Public Outreach: 3%
Task 8: Data Monitoring and Evaluation: 4%
Total project: 67%

Completion of milestones/tasks/deliverables (status):

Task 1: Project Management

We completed the following with respect to project management:

- Prepared the eighth quarterly report.
- Prepared updated budget summaries by various categories for internal budget tracking/evaluation.
- Maintained a central project filing system.
- Periodically held project management meetings and also kept the project on track via phone calls.
- Coordinated with the Bureau of Reclamation regarding the requested amendment to the cooperative agreement between the Bureau and CCCSD.
- Began work on the second annual monitoring report.

Task 2: Expand Partnerships with Stores

We accomplished the following with respect to regional implementation of this task:

- Continued to coordinate with other Bay Area agencies that are implementing IPM Partnerships with stores: Met three times this quarter with the regional IPM Partnership committee. Also coordinated with other agencies via telephone and e-mail.
- Continued work on the training video (which will be used within central Contra Costa and made available to other agencies for the cost of reproduction). Completed a draft of the third video.

We accomplished the following with respect to task 2 implementation within central Contra Costa County:

- Periodically visited participating stores to maintain displays.
- Interviewed participating stores by telephone to assess the need to make any changes for the 2001 spring campaign.

Task 3: Partnerships with Master Gardeners

Participating Master Gardeners conveyed information about less-toxic pest control. Specifically, they gave 10 workshops—including two public workshops held at libraries and eight workshops held for businesses or interest groups (church groups or garden clubs). The Master Gardeners also gave out IPM information over their information line and at special events (such as Farmer's markets) they attended.

CCCSD undertook the following task activities:

- Continued to publicize the workshops. Specifically: installed a display to promote the September workshop at the Danville library, kept participating stores stocked with workshop flyers, and issued press releases to several City or non-profit newsletters.
- Completed a mailing to church groups, notifying them they can request the workshop be held before their group.
- Researched future supplemental training opportunities for the Master Gardeners.

Task 4: IPM Video for the General Public

CCCSD completed a first draft of a script for the public video.

Task 5: IPM Strategies Used by Public Gardens

CCCSD completed the a first draft of the brochure text for three of the participating gardens and began research for the remaining two.

Task 6: IPM Training for Pest Control Operators

CCCSD completed the following with respect to this task:

- Researched IPM educational opportunities for PCOs (to supplement the training provided by CCCSD) and summarized the research.
- Met twice with other agencies to discuss how best to provide follow-up to the PCO training already provided under this cooperative agreement.

Task 7: Other public outreach

CCCSD began work on a presentation related to water quality and the IPM Partnership.

Task 8: Data Monitoring and Evaluation

CCCSD continued to perform monthly effluent toxicity testing and pesticide testing for chlorpyrifos and diazinon. In August, CCCSD monitored the influent daily for chlorpyrifos and diazinon and computed daily and weekly mean values. These monitoring efforts are being paid for by CCCSD, outside of the grant.

In addition, CCCSD:

- Summarized the participant evaluation forms and the workshop leader comment forms for the 30 “Gardening the Less-Toxic Way” workshops held from 9/30/00 through 10/1/00.
- Summarized workshop attendance versus publicity to evaluate publicity effectiveness.
- Completed a summary of the evaluation forms for the store employee training workshops.

Summary of/Status of Deliverables

We are on schedule with respect to the project deliverables for this quarter.

Problems encountered:

We have encountered no substantive problems.

Description of benefits/objectives of project achieved:

Substantial progress has been made in implementing tasks 2, 3, and 6. As part of task 2, we have continued to facilitate IPM Partnerships sponsored by a number of Bay Area Agencies.

**CALIFORNIA BAY-DELTA ENVIRONMENTAL ENHANCEMENT ACT
UNITED STATES BUREAU OF RECLAMATION
INDIVIDUAL PROJECT PROGRESS REPORT**

Contract Number: USBOR Contract #1425-98-FC20 166650

Agency/Entity Name: Woobridge Irrigation District

Proposal Title

and/or Description: Lower Mokelumne River Restoration Program

Funds Provided: _____

Funds Obligated: \$1,575,000

Funds Expended: \$726,395

Labor: _____

Contracts: \$726,395

Contracts(Construction): _____

Overhead: _____

Other: _____

Physical Progress During the Quarter/Accomplishments: Engineering work is 30-35% complete on the fish passage and weir facilities. Plans, specifications, and approval is expected by October 15, 2001. An environmental impact statement/environmental impact report has been written and circulated. Assessments have been written and biological opinions requested for endangered species including the Chinook Salmon, Steelhead, Giant Garter Snake, Elderberry Longhorn Beetle. An biological assessment is also being written for the Sacramento Split Tail. A technical team consisting of representatives of the USFWS, CDFG, NMFS, EBMUD, Woodbridge and Lodi have been meeting monthly on design considerations for the fish ladder system, monitoring systems, and dam weir system. Several fish ladder designs including a pool/chute low level ladder are under consideration. An application for funding from the CALFED spring PSP in the amount of \$550,000 was received favorable review from the CALFED Roundtable. The Roundtable also approved an grant amendment of \$130,000 to complete a 25% design of a fishscreen to be built at WID dam.

Physical Completion: 46% Complete

Comments: Jones and Stokes, acting in behalf of (WID & Lodi) the sponsors have begun discussions on Section 7 consultations. Certification of the FEIR/FEIS is expected in November or December.

Progress Report, Dated: October 6, 2000

C: USBR 8th Prog Rpt (October 6, 2000)

**CALIFORNIA BAY DELTA
ENVIRONMENTAL ENHANCEMENT ACT
INDIVIDUAL PROJECT PROGRESS REPORT
As of **September 30, 2000****

Agency: **U. S. Bureau of Reclamation**

Project: **IRRIGATION DRAINAGE WATER TREATMENT FOR SELENIUM REMOVAL: PANOCHÉ
DRAINAGE DISTRICT DEMONSTRATION FACILITY
USBR Agreement 1425-98-FC-20-16660
CALFED Tracking #98-B14**

Funds Provided:	\$1,149,000	100% of the Total Funds Provided
Funds Obligated:	\$1,149,000	100% of the Total Funds Provided
Funds Expended:	\$ 823,299	

Labor:	\$ 65,240
Benefits:	\$ 6,872
Contracts (AE):	\$ 12,257
Contracts (Const):	zero
Overhead:	\$ 7,570
Supplies & Expenses:	\$ 8,294
Domestic Travel:	\$ 2,270
Equipment:	\$ zero

Physical progress during the quarter/accomplishments:

Task 1: Field Studies

Operational changes and O&M: Bacterial substrates and nutrients (molasses, carbon dioxide, fertilizers) were regularly delivered to the Algal-Bacterial Selenium Removal (ABSR) Facilities at the Panoche Drainage District. Bacterial substrates and nutrients were added to the Reduction Ponds (RPs) and High Rate Ponds (HRPs) at the research-scale dual ABSR Facility. The two identical systems are identified as North and South ABSR Systems.

During the past year, the hydraulic loading into the North ABSR System operated in Mode 2 (i.e. Reduction Pond followed by High Rate Pond) has been increased step-wise twice in order to determine the sensitivity of nitrate and selenium removal to hydraulic residence time in the ABSR ponds. The flow was increased gradually in order to allow time for the micro-organisms in the System to adapt to the changing conditions. The minimum hydraulic residence time tested was 12 days beginning on May 16, 2000, and average selenate removal remained high (81%) from May 16 until July 12. During this time the influent nitrate nitrogen rose from about 60 mg/L to near 90 mg/L. The higher nitrate

concentrations partially inhibited selenate removal from July 12 to August 4, 2000. At that time, the hydraulic residence time was increased to 14 days, and selenate removal improved almost immediately, averaging 67% through August 30. Thus it appears that with the low molasses dose of 0.2 g/L and with influent nitrate concentration of <90 mg/L, the minimum hydraulic residence time for efficient selenate removal is 12-14 days at this Facility. The next step will be to determine the minimum hydraulic residence time needed to achieve high selenium removal when higher molasses doses are used. Higher molasses doses would increase the operational costs of full-scale ABSR Facilities, but reduced residence time requirements (higher hydraulic loading capacity) would decrease land and capital costs. The data gathered on minimum residence time at various molasses doses will be used to optimize the design of intermediate-scale and full-scale ABSR Facilities. Larger-scale ABSR Facilities are expected to perform more efficiently because they provide deeper Reduction Ponds than are possible at the current site.

Some of the soluble selenate reduced by the Reduction Ponds is converted to suspended particulate selenium that does not settle in the Reduction Ponds. Current evidence indicates that this suspended selenium is colloidal elemental selenium, metallic selenide, or is associated with algae and bacteria. In order to remove this particulate selenium, the Krofta® Supracell Dissolved Air Flotation (DAF) Unit is being used to clarify the High Rate Pond effluent in the North System. DAF operating parameters, such as coagulant dose, air pressure, air flow, and recirculation rate, have been evaluated to optimize DAF particle separation performance. Panoche Drainage District personnel operate the DAF one day per week in order to produce effluent to operate a slow sand filter continuously during the week.

Final particulate removal is provided by two slow sand filters whose operation began on August 16, 2000. The slow sand filters are constructed of 5-ft diameter by 5-ft tall plastic tanks filled with layers of drain rock, pea gravel, and filter sand. When the sand clogs with particles (four to eight weeks of continuous operation), the upper 2 cm of sand are scraped off to reestablish the normal flow rate through the sand filter. One sand filter treats DAF effluent and the other filter treats Reduction Pond effluent. We expect that only one filtration point will be required in full-scale ABSR Facilities. The current filtration studies will help determine the level of benefit from sand filtration and the most efficient location for the filtration stage of treatment.

Carbon dioxide addition to the South ABSR System operated under the Mode 1 (High Rate Pond followed by the Reduction Pond) was discontinued in September in preparation for switching the South System system to Flow Mode 2 (Reduction Pond followed by High Rate Pond and Algae Settling Pond). Operating in Mode 2 (virtually eliminates the need for additional carbon dioxide and nutrients, such as potassium contained in the molasses and RP effluent. The High Rate Pond following the RP minimizes excess concentrations of plant nutrients in the treated effluent.

A selenium bioaccumulation study was begun on August 8, 2000. Portions of the influent and effluent from each stage of the Mode 2 System are being diverted through microcosm tanks. The five tanks each hold smaller triplicate microcosms that contain four types of invertebrates (chironomid larvae,

amphipods, polychaete worms, and snails) which were collected at low-selenium sites near Sacramento. After a one-month exposure period, the organisms will be collected and analyzed for their selenium content.

Sampling and analysis: Weekly samples of the influent and effluent of each pond of the ABSR Facility have been collected and analyzed for the concentration of selenate, selenite, and total selenium, nitrate+nitrite nitrogen, and 13 other parameters. On July 26 and August 3, a sediment accumulation survey was conducted on the Reduction Ponds and High Rate Ponds. Sediment samples were collected for analysis of selenium, solids, nitrogen, and phosphorus.

Task 2: Laboratory Studies

Special samples were collected on September 10 for identification of bacteria from each component of the ABSR Facility. The identification screening is conducted with a Biolog Assay system followed by confirmation with 16S rRNA sequencing in Professor Terry Leighton's laboratory in the Department of Molecular and Cell Biology.

Task 3: Data and Economic Analyses

The Panoche Drainage District has recently submitted a proposal to expand their drainage management program in response to a solicitation from Governor Davis. The Panoche Drainage District proposes to purchase approximately 4,400 acres of low productivity land for drainage volume reduction through irrigation of salt-tolerant crops. We have discussed with District staff the potential for including a larger-scale ABSR Facility for treatment of the concentrated drainage stream. The research team is preparing a special proposal for the planning and design of a larger ABSR Facility as part of the Panoche Drainage District's Drainage Management Program. Successful ABSR Facilities should minimize the land required for selenium control.

Water quality monitoring data collected from the ABSR Facility are being processed and analyzed on an ongoing basis. Data are being used to calculate mass balances; to determine final effluent quality and the characteristics of the minimal pond sediments; and to correlate treatment performance with the evolving microbial consortia in the Reduction Ponds and High Rate Ponds, all with the purpose toward optimizing nitrate and selenium removal at the lowest unit cost.

Task 4: Technology Transfer

A poster on the ABSR Project was presented at the CALFED Science Conference (October 3-5) in Sacramento, and copies of "Drainage Treatment Bulletin" prepared by our research team were distributed.

The new project website was completed and may be viewed at the following URL:

We assisted the Panoche Drainage District in preparing a proposal for the 2001 Ecosystem Restoration Solicitation. The District proposed the planning, design, construction, operation, and initial monitoring of an intermediate-scale ABSR Facility capable of treating 1.5 acre-feet per day of the most contaminated drainage produced within the Panoche Drainage District. The proposal was rejected by the Selection Panel apparently because the proposal was seen to be in competition with a new CALFED-sponsored Panoche Drainage District project exploring the use of Reverse Osmosis (RO) and also with possible wetland treatments. As far as we know, other treatment research projects using wetlands or reverse osmosis have not yet solved problems of organic selenium discharge and high land usage in the case of wetlands, or membrane fouling and safe brine disposal in the case of RO. Compared with wetland treatments, the ABSR Process is a more controlled process that uses a much smaller footprint and prevents the discharge of particulate organic selenium through the use of sand filtration.

The ABSR Process is far less costly than RO (<\$200/AF versus \$500-\$600/AF), but may also be synergistic with RO. By removing selenium, calcium, and silica, the ABSR Process may reduce the greatest difficulties with RO, membrane fouling and safe concentration and disposal of brine. Over the last two years, our research group demonstrated the cost-efficient use of RO for quinary stage wastewater treatment and reclamation and salt removal from municipal wastewater treated first in our research-scale Advanced Integrated Wastewater Pond System (AIWPS[®]) Facility at Richmond, of which the ABSR Facility at Panoche is a special adaptation. The demonstration showed that the total cost for the AIWPS[®] plus RO treatment was approximately half that of conventional activated sludge treatment plus RO. This information related to drainage treatment will be included in the next "Drainage Bulletin".

As the proposal described, the ABSR Process will almost certainly be ready for full-scale implementation at the end of the current 3-year project. Funding for implementation was to begin in October 2001 at the conclusion of the current project. If the proposal rejection by the Panel is accepted by the Ecosystem Roundtable, the Bay Delta Advisory Committee, and the Policy Group, then research at the Panoche ABSR Facility may be suspended in mid-year 2001 adversely affecting further demonstration and implementation of the ABSR Process for efficient drainage treatment, and jeopardizing the cumulative expertise acquired by the research team.

The proposal described the option of partial funding for planning an intermediate or full-scale ABSR Facility. The planning efforts would include consultation with the Central Valley Regional Water Quality Control Board to specify discharge requirements for full-scale drainage treatment facilities. Funding of the ABSR Facility planning effort would prevent a delay of at least one year in the further implementation of a cost-effective method for the removal of selenium from irrigation drainage. We expect the Panoche Drainage District will ask for reconsideration of the planning proposal.

Physical: **67%** Complete

Irrigation Drainage Water Treatment for Selenium Removal: Panoche Drainage District Demonstration Facility
University of California, Berkeley
CALFED Tracking #98-B14
USBR Agreement 1425-98-FC-20-16660

Budget year: 2000
Statement Quarter: 8

Total Estimated Cost \$ 1,149,000
Funding from Federal Bay-Delta Account \$ 1,149,000
Project Completion 3 years

		Quarter 4 of FY00 Budget			FY00 Budget			FY99 to FY01 Budget		
		Budget	Accrued Expenditure	Variance*	Budget	Accrued Expenditure	Balance Remaining	Budget	Accrued Expenditure	Balance to Complete
Task 1: Field studies (FY 99-FY 01)		\$52,931	\$73,500	(\$20,569)	\$211,724	\$301,400	(\$89,676)	\$735,899	\$576,982	\$158,917
Percent Work Complete for Task 1	67%									
1.1 Operate ABSR Facility		\$25,931	\$29,700		\$103,724	\$127,500		\$393,448	\$266,712	
1.2 Mass balances		\$24,675	\$34,600		\$98,700	\$155,200		\$323,851	\$286,970	
1.3 not used		\$0	\$0		\$0	\$0		\$0	\$0	
1.4 Bioaccumulation		\$2,325	\$9,200		\$9,300	\$18,700		\$18,600	\$23,300	
Task 2: Laboratory studies (FY99-FY01)		\$0	\$1,000	(\$1,000)	\$0	\$6,000	(\$6,000)	\$50,000	\$20,340	\$29,660
Percent Work Complete for Task 2	67%									
Task 3: Data & economic analyses; scale-up studies (FY99-FY01)		\$9,575	\$6,954	\$2,622	\$38,300	\$36,741	\$1,560	\$117,000	\$73,551	\$43,450
Percent Work Complete for Task 3	.									
3.1 Economic analysis		\$3,850	\$1,000		\$15,400	\$13,000		\$46,300	\$17,400	
3.2 Project management, report writing		\$5,725	\$5,954		\$22,900	\$23,741		\$70,700	\$56,151	
Task 4: Technology transfer activities with irrigation districts, etc (FY99-FY01)		\$7,375	\$6,500	\$875	\$29,500	\$29,059	\$441	\$83,000	\$35,559	\$47,441
Percent Work Complete for Task 4	67%									
Travel, telephone, research management services, and indirect expenses		\$11,561	\$14,550	(\$2,990)	\$46,243	\$61,740	(\$15,497)	\$163,101	\$116,868	\$46,233
PROJECT TOTAL		\$81,442	\$102,504	(\$21,062)	\$325,767	\$434,939	(\$109,173) *	\$1,149,000	\$823,299	\$325,701

* Although the project was overbudget by \$109,173 during FY00, the project was underbudget by \$117,788 during FY1999.

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: September 30, 2000

Agency: Fishery Foundation of California

Proposal/Description: Modifications of existing fish ladders at Granlees Diversion Dam and retrofit of summer dams (Cosumnes River Salmonid Barrier Program)

Funds Provided: 188,255 50 % of the Total Funds Provided

Funds Obligated: n/a % of the Total Funds Provided

Funds Expended: 89,714

Labor: 35,921

Contracts (AE): 28,022

Contracts (Const): -0-

Overhead: 8,412

Other: 17,359*

Physical progress during the quarter/Accomplishments: Constructed a fish passage structure on one low flow barrier. California Dept of Fish & Game advised us that they will modify Blodgett Dam, thus removing one site from the proposal.

Physical 60 % Complete

Comments: **Project is progressing on schedule. Granlees Dam improvements and construction of fish passage structures on a second low flow crossing will take place in summer, 2001. There were no construction contracts let, as the Fishery Foundation completed the work itself. The construction costs are included in the "Other" category above.**

CALIFORNIA BAY-DELTA ENVIRONMENTAL ENHANCEMENT ACT

Individual Project Progress Report *As of Quarter Ending September 30, 2000*

Agency:	Boeger Family Farms	
Proposal Description:	Phase II Construction	
Funds Provided	\$139,500.00	100% of the Total Funds Provided
Funds Obligated:	\$139,500.00	100% of the Total Funds Provided
Funds Expended:	\$ 0.00	

Labor:	\$0.00
Contracts (AE):	\$0.00
Contracts (Constr):	\$0.00
Overhead:	\$0.00
Other:	\$0.00

Physical Progress During the Quarter/Accomplishments. Further work on the project has been delayed until final confirmation from the Corps of Engineers that a setback levee is no longer planned in the area. A decision is expected October 25, 2000.

Physical 0% Complete

Comments:

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: **September 31, 2000**

Agency: **Natomas Mutual Water Company**

Proposal/Description: **American Basin Fish Screen and Habitat Improvement Project,**
Phase I – Feasibility Study and Biological Assessment &
Phase II – Preliminary Study and Environmental Documentation

Funds Provided: **450,000**

Funds Obligated: **450,000** 100 % of the Total Funds Provided

Funds Expended: **137,033** 30 % of the Total Funds Provided

Labor: _____

Contracts (AE): **137,033**

Contracts (Const): _____

Overhead: _____

Other: _____

Physical progress during the quarter/Accomplishments: **Produced preliminary draft of the**
Feasibility Report and Biological Resource Report for Natomas Mutal Water Company
review.

Physical 48 % Complete

Comments: The physical percent complete was determined as follows: Phase I consists of 50% of the
work for both Phase I and Phase II. Phase I is estimated to be 95% complete.

Therefore, 95% of Phase I x 50% of the funded project = 48% Complete

CALIFORNIA BAY-DELTA ENVIRONMENTAL ENHANCEMENT ACT
UNITED STATES BUREAU OF RECLAMATION
INDIVIDUAL PROGRESS REPORT
July 1, 2000 – September 30, 2000

Contract Number: 1425-99-FC-20-0021

Agency/Entity Name: CSU Chico Research Foundation

Proposal Title: Educational Workshops on Butte Creek Watershed

Funds Provided: \$33,000

Funds Obligated: \$33,000

Funds Expended: \$ 4,433

Labor: \$2842

Contracts: \$0

Overhead: \$ 698

Other: \$ 893

Physical Progress During the Quarter/Accomplishments:

Field Tour entitled: **“Hydroelectric Power Generation in the Butte Creek Watershed”**

In the course of preparing for and executing the field tour presented on August 19, 2000, project staff undertook the following tasks:

Tour itinerary development meetings;

A dry-run of the tour in the field to organize transportation, safety and other logistics;

Coordination of the tour with representatives of Pacific Gas & Electric and Energy I;

Draft, edit, print and mail the newsletter announcement for the tour;

Create and print a handout of information for the tour, including photographs of the sites;

Pick up vans, food, and beverages on the day of the tour;

Drove participants on the tour and facilitated discussions;

Returned all equipment to rental agencies as needed;

Prepared final report for the newsletter.

A recap of the tour was provided as a portion of the current newsletter, a portion of which has been excerpted, modified, and included below:

“A very informative session on PG&Es hydroelectric facilities was the focus of our last gathering, which took place on August 19th. Jim Bundy (Manager for PG&Es DeSabra/Centerville Project) provided a great deal of information on PG&Es hydroelectric infrastructure operating within the Butte Creek Watershed.

He also gave an update on the statewide divestiture process at our lunch break, which sparked many questions and interesting discussions. Jim explained the purpose of the various parts of the project’s canals, gauges, dams, penstocks and powerhouses, and the difficulties of maintaining such an extensive system. Included in the tour were the Hendrick’s Head Dam on the West Branch of the Feather River, the confluence of Toadtown and Butte Canals, Lake DeSabra, Camp One, DeSabra Powerhouse, and Centerville Powerhouse.

We also worked with John Yeoman (Energy Group 1), who kindly opened the “Forks of the Butte Powerhouse,” just upstream of DeSabra Powerhouse. John led us on a tour through the interior of that powerhouse and described the operations of it. All the participants enjoyed a very informative day and some even got an additional treat when several salmon were seen below the Centerville Powerhouse.”

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT

As of: **9/30/00**

Agency: **Water Education Foundation**
Proposal/Description: **Bay Delta Environmental Restoration Education Program**
1425-99-FC-20-0022

Funds Provided: **\$40,000**

Funds Obligated: **\$40,000**

Funds Expended: **\$33,646**

Labor: **\$14,835**

Contracts (AE): **8,562**

Contracts (Const): **0**

Overhead: **2,940**

Other: **7,309**

Physical progress during the quarter/Accomplishments:

The two remaining teacher workshops outstanding under this agreement are scheduled to occur November 3 and November 17. Fliers have been distributed announcing the workshops and teachers are currently enrolling.

Physical **90% Complete**

Attachment A

CALIFORNIA BAY DELTA
ENVIRONMENTAL ENHANCEMENT ACT
INDIVIDUAL PROJECT PROGRESS REPORT

As of 04 October 2000

Agency: US Army Corps of Engineers-Bay Model Visitor Center

Proposal/Description: Water Challenge 2010 Exhibit

Funds Provided: \$135,000 100% of the Total Funds Provided

Funds Obligated: \$84,988.38 63% of the Total Funds Provided

Funds Expended: \$3,000.00

Labor: \$0

Contracts (AE) @ 3,000.00

Contracts (Const): N/A

Overhead:

Other:

Physical progress during the quarter/Accomplishments: Final award of exhibit design, fabrication and installation accomplished on 29 August 2000 to Promotion Products Inc., Portland, OR. Final award price of \$84,988.38. Additional funds will be held for contingency and possible modifications. Final completion date anticipated for 15 May 2001.

Physical % Complete

Comments:

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT

As of: September 30, 2000

Agency: American River Watershed Institute

Proposal/Description: American River Watershed Institute Summer Watershed Education Workshop Series, TVMMCF Education Program, Placer Nature Center Exhibits, Integration Planning for Upper and Lower American River Watershed Education

Funds Provided: \$55,250 100% of the Total Funds Provided

Funds Obligated: 11,720.56 21 % of the Total Funds Provided

Funds Expended: 11,720.56

Labor: \$1225

Contracts (AE):

Contracts (Const): \$8750

Overhead: \$1200

Other: \$545.56

Physical progress during the quarter/Accomplishments: See attached notes

Physical 25 % Complete

Comments: Complete invoice backup follows by US Mail

Fall 2000 Quarterly Progress Report Notes
CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT

The Learning Watershed Project
Submitted by American River Watershed Institute
CALFED Action #99-B23

Task	Total costs	Deliverables:
Task 1: ARWI Learning Watershed	\$0	ARWI planned and delivered two successful workshops, as specified in the CALFED grant. However, in Spring 2000 ARWI was the recipient of transfer 319h funding from the Regional Water Quality Control Board for workshops with site specific objectives. The planned workshops qualified for this funding thus no funding was required from the CALFED grant for this summer 2000 workshop series, with full funding coming from the matching sources. ARWI is completing the report for the 319h funding, and will forward this report to CALFED. ARWI would like to revise the scope of work for Year 2, allowing faster growth of the program, which is finding a ready market; CALFED funding would be re-allocated to this second season in this proposed revision of the scope of work.
Task 2 TVMMCF Education Program	\$1095.56	<p>The TVMMCF successfully delivered a three-day workshop on August 25-27, 2000. Trainees were coached, and had the opportunity to present to the full group. The scale of this workshop was about half the proposed workshop in the original scope of work. The expenses were significantly less than projected.</p> <p>This was, interestingly, a result of the process encountered when the final planning phase was brought to the Association; a greater emphasis was placed on going a bit slower in the initial year, bringing in the participation and support of the Elders. The very positive result will strongly influence the success of subsequent workshops.</p> <p>A second workshop is planned for Fall 2000. Presentations for Winter/Spring will be outlined in planning sessions after the second workshop</p>
Task 3: Placer Nature Center	\$8,750.00	Work is well under way on both "Water and

Exhibit		Nature” and “Water and People”. These exhibits complement the recently dedicated watershed model, which was cooperatively funded by USBR and Placer County Water Agency.
Task 4: Integrating Upper and Lower Watershed Education	\$675.00	<p>Two meetings and design sessions were held, plus individual networking, resulting in plan & grant submittal.</p> <p>These wildly successful meetings brought together stakeholders from the private sector and the public sector from Sacramento and Placer Counties. The result was a design for a year-round education program serving the region, complete with fundraising campaign design, and grant writing. The salient characteristic of this program is the teacher training element, which would create a cadre of high school science teachers trained in watershed education specific to the Sacramento Region. The products of these meetings were incorporated into a grant submitted to the Packard Foundation September 30, 2000. The grant is attached, and serves as the deliverable for this round of meetings.</p> <p>Again, the meetings were held at a lower cost than projected. A second round of meetings is planned for Winter 2001, to further refine the teacher education program, this time focusing on a watershed certification program specific to the region.</p>
Task 6: Project Management	\$1200.00	All of the funded elements of the grant have moved forward successfully. Tasks 1 and 3 are on target with program product. Task 2 is moving forward well, though was modified to include two workshops for this year 1 rather than a single workshop. Task 4, while under budget, has surpassed all expectations. The time required and invested in managing these programs far exceeds projections, and were provided pro bono as matching resources from ARWI.
Totals	\$11,720.56	

CALIFORNIA BAY-DELTA ENVIRONMENTAL ENHANCEMENT ACT

UNITED STATES BUREAU OF RECLAMATION

INDIVIDUAL PROJECT PROGRESS REPORT

Fiscal Year 2000 Fourth Quarter Report

Contract Number: 9-FC-20-0023

Agency/Entity Name: City of Modesto, California

Proposal Title

and/or Description: Increase Public Awareness of the Riparian Habitat and the Ecosystem of the
Tuolumne River.

Funds Provided: \$55,255.00

Funds Obligated: \$55,255.00

Funds Expended: \$17,618.89

Labor: \$417.82

Contracts: \$150.00

Contracts (Construction): \$0

Overhead: \$0

Other: \$25.00

Physical progress during the quarter/ Accomplishments: The beginning stages of phase two planning are in place. Phase 2 will consist of approximately 10 field trips to the Tuolumne River. The final number will be based on the number of classes that choose to take advantage of our program. The Great Valley Museum will provide two naturalists that will present educational information to the students while at the river. In addition recreation leaders from the City of Modesto will also accompany the students to insure safety and a greater potential for learning. Workshops will be conducted starting February 2001 and will be completed by May 2001. Our hope is that by moving the scheduling of the fieldtrips back a few months, the weather will be nicer for the students' experience. Also we want to keep the students excited about the program, thus boosting the number of participants in our summer camp program (phase 3).

Physical 10% complete for Phase 2

Comments: The contract cost of \$150 that is included in this report is actually the final billing for two workshops completed by The Great Valley Museum during phase one.

Increase Public Awareness of the Riparian Habitat and Ecosystem of the Tuolumne River

Applicant: City of Modesto

Requisition Number: 99-2019000-00027

Agreement Number: 9-FC-20-0023

Budget year: 2000

Statement Quarter: 4

Explanation of Costs	Phase Two Quarterly Budget	Phase Two FY Budget	Project Total
Materials and Supplies	\$0.00	\$0.00	\$1,278.20
Office Equipment	\$0.00	\$0.00	\$564.94
Mileage	\$0.00	\$0.00	\$151.50
Pager	\$25.00	\$25.00	\$125.00
Contracts	\$150.00	\$150.00	\$2,217.00
Food	0	0	0
Snacks	0	0	0
Recreation Leaders	0	0	0
Recreation Supervisor	\$417.82	\$417.82	\$13,282.25
Totals	\$592.82	\$592.82	\$17,618.89
Total Value of Contract	\$55,255.00		
Actual Expenditures	\$17,618.89		
Balance of Contract	\$37,636.11		
Phase 1 Schedule	1 year		
Phase 2 Schedule	1 year		
Phase 3 Schedule	4 months		
Estimated Completion Date	September, 2001 (2 years 4 months)		

**CALIFORNIA BAY- DELTA ENVIRONMENTAL ENHANCEMENT ACT
UNITED STATES BUREAU OF RECLAMATION
INDIVIDUAL PROJECT PROGRESS REPORT**

As of 09/30/00

Contract Number: 1425-98-AA-20-17310

Agency/Entity Name: Dept of Interior, U.S. Fish & Wildlife Service

Proposal Title

and/or Description: Butte Creek Watershed (BCW), Restoration Project: (Task 1) BCW Assistant Coordinator and (Task 2) Develop BCW Education Project, BCW Road Survey, and conduct Geomorphology Analysis of Lower Butte Creek.

Funds Provided: \$302,867.00

Funds Obligated: \$302,867.00

Funds Expended: \$224,127.00

Labor:	<u>\$ 124,273.00</u>
Contracts:	<u>\$ 51,366.00</u>
Contracts (Construction):	<u>\$ 0.00</u>
Overhead:	<u>\$ 32,119.00</u>
Other:	<u>\$ 16,369.00</u>

Physical progress during the quarter/Accomplishments: (Task 1) The BCW Assistant

Coordinator position has been fulfilled and no other modifications will be done to extend the project.

Pending final Existing Conditions Report and Watershed Management Strategy Report. (Task 2) BCW Education Project: (No Progress Reported) Other actions still in progress: development of web site and video, and a "how to" guide for use by other watershed groups to establish education projects.

BCW Road Survey: The Roads reports was completed and distributed to all interested parties and Project Manager. Included with the report a CD with GIS data and a 3.5" floppy disk with raw data was provided. Currently ten copies remain in our Geography and Planning office at CSU Chico for distribution to any requesting parties. Once these copies have been distributed, our office will continue to provide the entire report on CD-ROM and/or lend an office copy for photo-copying. *Fluvial*

Geomorphology Study: The subcontractor, G. Mathias Kondolf, Ph.D., re-surveyed the channel cross sections, field mapped habitats in two reaches, researched and analyzed bed elevation data for bridges,

continued analysis of aerial photography and hydrologic data, supervised Chico State students and commenced preparation of the report. Under the sub-contractor supervision, Chico State students traveled to the field work and to the NCRS office, conducted field surveys and pebble counts, plotted cross sections of the creek and revised plots based on external agency reviews. They also organized and extracted information from Cal-Trans bridge book material, and performed habitat and cross section mapping. In preparation for the final report, students prepared air photographs for the atlas, revised and created maps and compiled figures.

Physical 93% Complete

Comments: (Task 2-BCW Education Project): Administrative oversight task completed.

**CALIFORNIA BAY- DELTA ENVIRONMENTAL ENHANCEMENT ACT
UNITED STATES BUREAU OF RECLAMATION
INDIVIDUAL PROJECT PROGRESS REPORT
As of 09/30/00**

Contract Number: 1425-98-AA-20-17470

Agency/Entity Name: Dept of Interior, U.S. Fish & Wildlife Service

Proposal Title

and/or Description: Stanislaus & Tuolumne Rivers HRP's: (Task 1) The Willms site acquisition: this project was terminated and funds in the amount of \$1,037,899.00 were

de-obligated March 26, 1999. (Task 2) The Tuolumne River Floodway Emergency Repair and Long-Term Habitat Restoration Project

Funds Provided: \$1,693,000.00

Funds Obligated: \$ 655,000.00

Funds Expended: \$0(*see comments)

Labor:	<u>\$0</u>
Contracts:	<u>\$0</u>
Contracts (Construction):	<u>\$0</u>
Overhead:	<u>\$0</u>
Other:	<u>\$0</u>

Physical progress during the quarter/Accomplishments: (Task 1) Willms Site Acquisition: The USFWS - Anadromous Fish Restoration Program (AFRP) has terminated its subcontract with the California Department of Water Resources. CALFED funds have been de-obligated and will not be expended as part of the Bureau of Reclamation and USFWS Inter-Agency agreement. (Task 2) The Tuolumne River Floodway Emergency Repair and Long-Term Habitat Restoration Project: Pre-construction tasks and field surveys for the project have been completed. Field studies indicated that a few Elderberry plants might need to be moved during construction. A Section 7 consultation was

completed in August that would allow movement of the elderberry in either the summer or the normal dormant period, including mitigation associated with the planting plan. A Memorandum of Agreement (MOA) between the Reclamation Board and Turlock Irrigation District regarding project elderberry planting in the floodplain was prepared and is currently under review by the Reclamation Board staff. The mitigation through the Section 7 and the responsibility identified in the conservation easements to be held by TID form the basis of the MOA. Acceptance of the MOA by the Reclamation Board will allow the planned planting of elderberry in the floodplain to proceed as designed and which will serve as a foundation for elderberry mitigation. The original offers for the purchase of conservation easements were rejected by the five landowners. Subsequent discussions with the mining interests and owners resulted in three boring samples being taken and revised appraisals prepared. Issues with valuation of lands not currently under permit were resolved with the USFWS Realty appraiser prior to making revised appraisals. The revised appraisals are currently under review with the Realty Dept. in Portland, OR, and approval is expected shortly. Completion of a sole-source construction contract with 7/11 Materials is on hold pending acceptance of revised ROW offers by the landowners.

Physical 0% Complete: **0% Complete; however the revegetation materials continue to be grown in anticipation of planting in the winter of 2000. The anticipated start date for completion is now in October 2000.**

Comments: ***USFWS funds expended to date: \$1,277,322.00; for Pre-construction tasks and field surveys.** The remainder of project construction funding is provided under separate agreements with CALFED and CF-USBR. The contract with MWD for the 1997 CALFED Cat III funds was signed on 18 July 00. The modification for CF-Bay Delta (USBR) funds is completed.

Notes: The Tuolumne River Floodway Long-Term Habitat Restoration Project involves four separate funding sources USFWS-AFRP: \$2,855,800; CALFED Federal Appropriations: (Funds managed by USFWS-AFRP) \$1,340,800; CALFED/Category III: (Funds managed by Turlock Irrigation District) \$2,825,000; and the Turlock and Modesto Irrigation Districts: \$166,260.

**CALIFORNIA BAY- DELTA ENVIRONMENTAL ENHANCEMENT ACT
UNITED STATES BUREAU OF RECLAMATION
INDIVIDUAL PROJECT PROGRESS REPORT
As of 09/30/00**

Contract Number: 1425-98-AA-20-16840

Agency/Entity Name: Dept of Interior, U.S. Fish & Wildlife Service

Proposal Title

and/or Description: Floodplain Management & Habitat Restoration/Non-native Species Prevention and Control: This report covers funding thru an Inter-Agency agreement which allocates funds to acquire land on Butte Creek (McAmis Property), and to solicit contractors for the Lower Mill Creek Restoration Enhancement Program (Task 1). All other cost associated with this Inter-Agency supports the cost of the Non-native species program in the San Francisco Bay-Delta Estuary and overhead cost thru the USFWS Regional 1 office located in Portland, OR. (Task 2) Total cost associated with (Task 1): \$149,730.00

TASK 2

<u>(Reported previously 06/30/00)</u>	<u>(Corrected 06/30/00 Figures)</u>	<u>(Current Rpt: 09/30/00)</u>
Funds Provided: <u>\$149,730.00</u>	Funds Provided: <u>\$149,730.00</u>	Funds Provided: <u>\$149,730.00</u>
Funds Obligated: <u>\$149,730.00</u>	Funds Obligated: <u>\$149,730.00</u>	Funds Obligated: <u>\$149,730.00</u>
Funds Expended: <u>\$146,885.00</u>	Funds Expended: <u>\$136,292.00</u>	Funds Expended: <u>\$145,475.00</u>

<u>(Reported previously 06/30/00)</u>	<u>(Corrected 06/30/00 Figures)</u>	<u>(Current Rpt: 09/30/00)</u>
Labor: <u>\$9,118.00</u>	Labor: <u>\$4,428.00</u>	Labor:<u>\$7,178.00</u>
Contracts <u>\$ 11,138.00</u>	Contracts <u>\$ 5,668.00</u>	Contracts: <u>\$ 11,309.00</u>
Contracts (Construction): <u>\$0</u>	Contracts (Construction): <u>\$0</u>	Contracts (Construction):<u>\$0</u>
Overhead: <u>\$1,163.00</u>	Overhead: <u>\$866.00</u>	Overhead: <u>\$1,584.00</u>
Other: <u>\$125,466.00</u>	Other: <u>\$125,330.00</u>	Other: <u>\$125,404.00</u>

USFWS Funds Expended: [**\$70,121.00**] - Labor: \$17,269.00, Contracts: \$45,793.00, Overhead:

\$3,238.00, Other: \$3,821.00

Physical progress during the quarter/Accomplishments: (Task 1a) Parcel of land known as the *McAmis property* has been purchased and the USFWS has received a copy of the Short Form Deed of Trust and Assignment of Rents from the Butte Creek Watershed Conservancy. This property will be used to develop a Riparian Restoration Research Preserve.

(Task 1b) *Lower Mill Creek Restoration Enhancement Program*: NO PHYSICAL PROGRESS REPORTED BY COOPERATOR.

Physical 90% Complete

Comments: (Task 1b): Received invoice for payment of \$9,183.12 with memo stating that the Cooperator is preparing the final report for the CALFED funded portion of the agreement (\$24,730.00).

**CALIFORNIA BAY- DELTA ENVIRONMENTAL ENHANCEMENT ACT
UNITED STATES BUREAU OF RECLAMATION
INDIVIDUAL PROJECT PROGRESS REPORT
As of 09/30/00**

Contract Number: 1425-99-AA-20-0226

Agency/Entity Name: Dept of Interior, U.S. Fish & Wildlife Service

Proposal Title

and/or Description: (Task 1) The Tuolumne River SRP 10 Restoration Project and Mining Reach Restoration Project No. 2 - MJ Ruddy Segment. (Task 2) Tuolumne River Mining Reach Restoration Project No. 2 - MJ Ruddy Segment.

Funds Provided: \$3,605,925.00

Funds Obligated: \$3,605,925.00

Funds Expended: \$ 0

Labor:	<u>\$0</u>
Contracts:	<u>\$0</u>
Contracts (Construction):	<u>\$0</u>
Overhead:	<u>\$0</u>
Other:	<u>\$0</u>

Physical progress during the quarter/Accomplishments: (Task 1) *Tuolumne River Special Run Pool (SRP) 10 Restoration:* The physical field monitoring activities for 1999 have been completed including preparation of the monitoring report. This constitutes a second year of pre-project monitoring. The repair to the dike break in SRP 10 is now scheduled to be the initial part of the restoration

construction for SRP 9 in the summer of 2001. Location of a single Elderberry bush adjacent to the limited width access route to the SRP 10 repair site required ESA consultation as part of the permitting for the SRP 9 construction. A site specific Section 7 consultation for elderberry has been completed for the currently active segments of the Mining Reach and SRP 9 project. (Task 2) Tuolumne River Mining Reach Restoration Project No. 2 - MJ Ruddy Segment: The preliminary design engineering was started in August. The preliminary design work will include the Warner-Deardorff Segment of the Mining Reach to facilitate hydraulic and fluvial modeling, permits, monitoring, and development of the initial ROW footprint for both segments of the project. Initial coordination meetings have been held with the mining company and landowners.

Physical 0% Complete

Monitoring: 100% Complete

Comments: (Task 1): Project monitoring funding was to be provided under agreement with CALFED awarded in early 1999. Monitoring periods were time sensitive and the Districts received approval in June 1999 to commence the monitoring prior to completion of the contract. The contract with the USFWS-AFRP, as the administrator of the CF-USBR provided funding has been completed and the Districts have recovered the monitoring portion of the funds provided by the District. (Task 2) The agreement modification for the remaining \$1,142,484 in USFWS-AFRP funding was signed and obligated 28 Sep 00. The Districts increased their contribution to the project by \$40,000 to achieve a program cost saving from doing the environmental documentation on both segments at one time.

Project Title: Butte Creek Watershed Coordinator Assistant									Budget year: 1998-2000	
Applicant: USFWS									Statement Quarter:	
CALFED Project Number: 113329G001									Jul - Sep 2000	
Total Estimated Cost of Project: \$41,015									REPORT DATE:	
Funding from Federal Bay-Delta Account									October 10, 2000	
Funding administered through the USFWS										
Project Schedule: 01-06-99- Through 12-31-00										
Total Project	\$41,015			PHASE I			PHASE I			
Estimated Completion Date:		Dec-00		(Quarterly Budget)			(FY '00 Budget)			
					Accrued			Accrued	Remaining	
				Budget	Expenditures	Variance **	Budget	Expenditures	Balance	
Task I:	BCW Coordinator Assistant			\$9,659	\$2,879.00	\$0.00	\$6,780.00	\$6,489.00	\$291.00	
Schedule:	Sept 98 - Dec 2000									
	100 % Work Complete									
TOTAL Budget				\$9,659	\$2,879	\$0	\$6,780	\$6,489	\$291	
**	Please explain significant variance.									

QUARTERLY PROGRAMMATIC REPORT

Program Manager Spencer Shepherd Phone 415-778-0999 x 24
 Project Manager Jim Staker
 CALFED Project # 98-N01
 Quarter Ending September 30, 2000

Deliverables				
	Name of <u>Deliverable</u>	Due <u>Date</u>	% of Work <u>Complete</u>	Date Deliverable <u>Complete</u>
Task 1	Data Col. TM*	Nov 30	100	Jan 3, 2000
Task 2	Base Map	Dec 31	100	Jan 21, 2000
Task 3	Geotech Report	Dec 31	100	April, 2000
Task 4	Alternatives TM	Nov 30	100	July, 2000
Task 5	Selected Alt. TM	Nov 30	100	August, 2000
Task 6	Report	Nov 30	100	September, 2000
Task 7	Quarterly Reports	Nov 30	100	September, 2000

*TM = Technical Memorandum

Narrative

- Description of activities performed during the quarter, by task.
 Task 5 – Completed preparation of the Selected Alternative Memorandum. This memorandum was prepared such that an alternative was recommended based on engineering and cost criteria, but no alternative was selected since an EIR has not yet been completed on this project. If Calfed funds the next phase of this project, the EIR will be completed in the year 2001
 Task 6 – Prepared a draft report summarizing the information from the TM of the previous work tasks. No comments were received on the draft report, so the report was considered finalized without any revisions.
 Task 7 – Performed project status and budget tracking.
- Problems and delays encountered by task.
 None.
- Other issues or comments.
 All work on this project was completed before the end of September 2000, however it is likely that some costs will be invoiced in October.
- Please identify your projected expenses for each of the next three months in the following quarter to assist in the timing of State bond sales which fund this project.

Month 1 \$1,500 Month 2 \$0 Month 3 \$0 Total for quarter \$1,500

Title Reclamation District 2035 Fish Screen Project
Applicant: RD 2035 - James Staker, General Manager
CALFED Project Number: 98N01

Budget year: 2000
Statement Quarter: 1

Total Estimated Cost of Phase I: \$115,000
 Funding from Federal Bay-Delta Account 100,000
 In-Kind Services 15,000

Phase I schedule 1.5 years

Total Project Estimated Completion Date: 1.5 years

Total Project Estimated Completion Date: 1.5 years		PHASE I (Fourth Quarterly Budget, July - Sept 2000)				PHASE I (FY '2000 Budget)				PHASE I (Three Year Budget)			
		Budget	Accrued Expenditures	Variance		Budget	Accrued Expenditures	Remaining Balance		Budget	Accrued Expenditures	Balance to Complete	
Task 1:	Data Collection and Site Visit	\$0	\$0	\$0	**	\$5,000	\$7,103	(\$2,103)	**	\$5,000	\$7,103	(\$2,103)	**
	Schedule: FY '98 through FY '99												
	Percent Work Complete for Task 1: 100%												
Task 2:	Site Surveying	\$0	\$0	\$0		\$8,000	\$6,366	\$1,634		\$8,000	\$6,366	\$1,634	
	Schedule: FY '98 through FY '99												
	Percent Work Complete for Task 2: 100%												
Task 3:	Geotechnical Investigation	\$0	\$0	\$0		\$8,000	\$6,127	\$1,873		\$8,000	\$6,127	\$1,873	
	Schedule: FY '98 through FY '99												
	Percent Work Complete for Task 3: 100%												
Task 4:	Fish Screen Alternatives Evaluation	\$0	\$0	\$0		\$55,000	\$56,659	(\$1,659)		\$55,000	\$56,659	(\$1,659)	
	Schedule: FY '98 through FY '99												
	Percent Work Complete for Task 4: 100%												
Task 5:	Selected Alternative	\$0	\$175	(\$175)		\$10,000	\$6,854	\$3,146		\$10,000	\$6,854	\$3,146	
	Schedule: FY '98 through FY '99												
	Percent Work Complete for Task 5: 50%												
Task 6:	Feasibility Report	\$4,000	\$1,078	\$2,922		\$8,000	\$5,613	\$2,387		\$8,000	\$5,613	\$2,387	
	Schedule: FY '98 through FY '99												
	Percent Work Complete for Task 6: 70%												
Task 7:	Project Management	\$4,000	\$9,114	(\$5,114)		\$6,000	\$9,574	(\$3,574)		\$6,000	\$9,574	(\$3,574)	
	Schedule: FY '98 through FY '99												
	Percent Work Complete for Task 7: 60%												
Phase I Total:		\$8,000	\$10,367	(\$2,367)		\$100,000	\$98,296	\$1,704		\$100,000	\$98,296	\$1,704	

We budget to the Sub-task level only if they are active during the Quarter in question. If a SUBTASK is complete, the SUBTASK cost rolls-up into the Task level.

**** Explanation of Significant (greater than \$1,000) Variance in Budget : (if any)**

- Task 5 The evaluation of the selected alternative was simplified somewhat to preclude selection of an alternative until an EIR is performed on the project.
- Task 6 Less effort was required to prepare the final report because no comments were received from the funding agencies on the draft report.
- Task 7 Attendance at more meetings was required that had been anticipated.

QUARTERLY PROGRAMMATIC REPORT

Program Manager: Spencer Shephard Phone: 415-778-0999 x24
Project Manager: Guy Phillips
CalFed Project #: Work Authority #1469-85, Project #98-N02
Quarter Ending: March 31, 2000

Deliverables

Name of Deliverable	Due Date	% of Work Complete	Date Deliverable Submitted/Complete
Task 1: Document the Opportunity	May 1, 1999	100%	September 30, 1999
Task 2: Inventory Sites	July 1, 1999	100%	September 30, 1999
Task 3: Develop Template	Sept. 1, 2000	95%	November 30, 2000
Task 4: Implementation Mechanism	Oct. 1, 1999	100%	September 30, 1999
Task 5: Demonstrate Mechanism	Nov. 1, 1999	100%	September 30, 1999
Task 6: Workshops	Sept. 1, 2000	90%	November 30, 2000
Task 7: Advisory Committee	Ongoing	95%	November 30, 2000
Task 8: Peer Reviews & Workshop	Sept. 1, 2000	95%	November 30, 2000
Task 9: Administration & Reporting	Ongoing	95%	November 30, 2000

Narrative

1. Description of activities performed during the quarter, by Task.

Task 1: Document the Opportunity: The opportunity has been previously documented and this task is complete.

Task 2: Inventory Sites: This task was completed in earlier quarters.

Task 3: Develop Template: Information for the template has been assembled. A “guidebook” has been prepared on the legal, engineering, economic, biological, and socio-institutional factors associated with dam decommissioning. It is presently being reviewed by the Peer Group per Task 8.

Task 4: Implementation Mechanism: This task was completed in an earlier quarter.

Task 5: Demonstrate Mechanism: This task was completed in an earlier quarter.

Task 6: Workshops: Workshops are scheduled for October, 2000, based on the schedules of potential participants.

Task 7: Advisory Committee: The Advisory Committee has reviewed the project products. Reviews of the final products are presently being conducted.

Task 8: Peer Reviews & Workshop: See discussion for Tasks 3, 5, 6, and 7.

Task 9: Administration & Reporting: Ongoing project administration and reporting has been performed as required.

2. Problems and delays encountered by Task.

Task 1:	Document the Opportunity:	This task is complete.
Task 2:	Inventory Sites:	This task is complete.
Task 3:	Develop Template:	No problems have been experienced associated with completing this task. This product is presently being reviewed by the Peer Review Group.
Task 4:	Implementation Mechanism:	This task is complete.
Task 5:	Demonstrate Mechanism:	This task is complete.
Task 6:	Workshops:	Scheduled for October, 2000.
Task 7:	Advisory Committee:	Reviews of final products are presently underway.
Task 8:	Peer Reviews & Workshop:	Reviews of final products are presently underway.
Task 9:	Administration & Reporting:	No problems are expected in completing this task.

3. Other issues or comments. None.

4. Please identify your projected expenses for each of the next three months in the following quarter to assist in the timing of State bond sales which fund this project.

Month 1: \$ 3,000.00

Month 2: \$ 0.00

Month 3: \$ 0.00

Total for quarter: \$ 3,000.00

Expanding California Salmon Habitat through Non-governmental and Nonregulatory Mechanisms to Alter Dams and Diversions

Applicant: Institute for Fisheries Resources
CALFED Project Number: 98-N02

Budget year: 2000
Statement Quarter: 4

Total Estimated Cost: \$120,000
Funding from CALFED \$49,000
Funding from NFWF \$40,000
In-kind from IFR \$6,600
Funding from Patagonia \$14,000
Other non-federal \$10,400

Phase I schedule: 17 months
Total Project Estimated Complete
Completion Date: November 30,2000
Percent

			PHASE I (Quarterly Report)				PHASE I (FY '00 Budget)				PHASE I (FY '00 Budget)			
			Accrued		Variance	* *	Accrued		Remaining Balance	* *	Accrued		Balance to Complete	* *
			Budget	Expenditures			Budget	Expenditures			Budget	Expenditures		
Task 1	Document Opportunity		\$0	\$0	\$0		\$0	\$0	\$0		0	0	\$0	
	Percent Work Complete for Task	100%												
Task 2	Inventory Sites		0	0	\$0		0	0	\$0		0	0	\$0	
	Percent Work Complete for Task	100%												
Task 3	Develop Template		2,610	2,610	0		4,410	2,610	1,800		1,800	1,800	0	
	Percent Work Complete for Task	95%												
Task 4	Implementation Mechanism		0	0	\$0		0	0	\$0		0	0	\$0	
	Percent Work Complete for Task	100%												
Task 5	Demonstrate Mechanism		0	0	\$0		0	0	\$0		0	0	\$0	
	Percent Work Complete for Task	100%												
Task 6	Workshops		3,330	3,330	0		5,835	3,330	2,505		2,505	2,505	0	
	Percent Work Complete for Task	90%												
Task 7	Advisory Committee		1,375	1,375	0		3,215	1,375	1,840		1,840	1,840	0	
	Percent Work Complete for Task	95%												
Task 8	Peer Reviews & Workshop		1,450	1,450	0		3,250	1,450	1,800		1,800	1,800	0	
	Percent Work Complete for Task	95%												
Task 9	Administration & Reporting		75	75	0		250	75	175		175	175	0	
	Percent Work Complete for Task	95%												
Phase I Total:			\$8,840	\$8,840	\$0		\$16,960	\$8,840	\$8,120		\$8,120	8,120	\$0	

QUARTERLY PROGRAMMATIC REPORT

Program Manager: Spencer Shepherd Phone: 415-778-0999 ext. 24
 Project Manager: William T. Mitchell
 CALFED Project: 98-N03
 Quarter Ending: September 30, 2000

Page 1 of 2

Task	Deliverable	Due Date	% Work Complete	Date Deliverable Complete
Task 1:				
Coordination	1) Draft Subcontract	9/1/99	0% ¹	6/10/99
	2) Final Subcontract			6/10/99
Task 2:				
Fish Trap Design, Construction, and Testing	1) Draft Design Drawing	9/1/99	100%	10/13/99
	2) Final Design Drawing	9/1/99	100%	01/30/00
Task 3:				
Fish Trapping and Data Collection	1) Draft Memo-Field Protocols	See f.n. 2	0%	
	2) Final Memo-Field Protocols	See f.n. 2		
Task 4:				
Scale/Otolith Preparation ³			0%	
Task 5:				
Scale/Otolith Analysis ³	1) Draft Memo-Scale Protocols	See f.n. 1	0%	
	2) Final Memo-Scale Protocols	See f.n. 1		
Task 6				
Data Storage and Analysis	1) Data Available on J&S's	As	0%	
Task 7				
Data Summary	1) Data Summaries	As	0%	
Task 8				
Report Preparation	1) Quarterly Progress Reports	1/10/01	0%	
	2) Annual Presentation	8/31/01	0%	
	3) Final Report	8/31/02	0%	

¹ No charges were made for subcontract preparation and processing

² To be prepared after permit conditions are established by NMFS

³ Task Order to be negotiated after permit conditions are established by NMFS

QUARTERLY PROGRAMMATIC REPORT

Activities Performed

Task 1. Coordination - No activities under this task were conducted this quarter because of delays described below.

Task 2. Fish Trap Design, Construction, and Testing - Fish trap was constructed and is ready for installation and testing.

Tasks 3-8. No activities under these tasks were conducted during this quarter. Regulatory approvals, as described below, must be received before initiating Tasks 3-8.

Problems and Delays

Trapping and data collection activities have not begun yet because of additional regulatory requirements imposed by the U.S. Army Corps of Engineers (Corps) for proposed steelhead trapping activities at Daguerre Point Dam. The Corps is currently awaiting responses from letters sent to the National Marine Fisheries Service and U.S. Fish and Wildlife Service requesting concurrence that the project has satisfied all regulatory requirements under Section 10 of the federal Endangered Species Act (ESA) and the National Environmental Policy Act (NEPA). Following receipt of the concurrence letters, the Corps will issue a license to Jones & Stokes. We are prepared to begin steelhead trapping activities at Daguerre Point Dam as soon as we receive the license from the Corps.

Other Issues or Comments

J&S submitted an application to NMFS in August 1999 requesting a scientific research permit in accord with Section 10(a)(1)(A) of the federal ESA. This application is currently being reviewed by NMFS following recent publication of the final 4(d) rule for Central Valley steelhead. Dan Logan of NMFS informed us by letter, dated December 17, 1999, that the final rule would not restrict ongoing scientific research affecting Central Valley steelhead for up to 6 months after its effective date, provided that an application for a permit for scientific purposes or to enhance the conservation or survival of the species is received within 30 days of the effective date of a final rule. Consequently, a Section 10 permit is not required at this time. We are currently authorized to conduct steelhead trapping activities under the terms and conditions of a Memorandum of Understanding with the California Department of Fish and Game for incidental capture of state-listed spring-run chinook salmon.

Projected Expenses

Month 1: \$5,000	Month 2: \$5,000	Month 3: \$5,000	Total for Quarter: \$15,000
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Project Title: Lower Butte Creek Project, Phase II -Butte Sink

Contract No: 99-FC-20-0055

CALFED No. 99-B02

POC: Olen Zirkle

CALFED Recommended Level of Funding:	\$775,000
Funds Obligated Through September 30, 1999	\$750,000
Bureau of Reclamation Funding	\$150,000
Funds Expended Through September 30, 2000:	\$ 270,223

Funding provided to: USBR agreement signed with Ducks Unlimited, Inc. on September 1, 1999

Project Description: Improved fish passage through the Butte Sink and its associated water control structures is expected to improve the long-term sustainability of natural production of anadromous fish populations, in particular spring-run chinook salmon and steelhead. Maintaining the viability of associated managed wetlands and agriculture will also benefits numerous other species.

Phase I of the Lower Butte Creek Project, completed June 30, 1998, was designed as a **Agrassroots@** effort to bring all interested stakeholders together in a public forum to address the diverse issues surrounding the use of Lower Butte Creek water. The result of this effort was an **Aexisting conditions** report” that detailed the water control structures located in the study area and listed alternatives to improve fish passage at each control structure site.

Phase II of the Lower Butte Creek Project is the logical progression of work to improve fish passage through the Butte Sink and its associated water control structures. This will involve working with stakeholder groups to select a preferred alternative at each of four sites, resulting in preliminary design of major structural modifications and final design for upgrading the fish passage for Butte Sink. Public scoping will include a review of the fisheries impacts associated with the recommendations prepared by the engineers to correct fish entrainment problems associated with periodic area flooding and resulting receding water. A cooperative agreement between the Butte Sink clubs will be prepared to assist the clubs in the management of flood-up water for the benefit of fish, waterfowl and other species.

Completion Date: September 30, 2001

Fourth Quarter Accomplishments:

Project Management:

- Kept stakeholders, resource agencies, funding agencies and interested parties updated as to on-going actions.

- Developed and submitted requests for modifications to the budget and scope of work to reflect the final subconsultant's contracts. (The project has been upgraded to include final design, environmental compliance documents, permitting and bidders assistance)
- Raised additional funding needed to pay for increased scope of work.
- Coordinated actions of consultants to insure project budget requirements, timelines and deliverables are being met.
- Held meetings to coordinate threatened and endangered species consultations for projects

Structural Modifications -Engineering/Environmental Compliance/Permitting:

- Borcalli and Associates (B&A) and their subcontractors conducted access investigations, site surveying, and geophysical investigations at the North Weir, End Weir, Morton Weir Complex, Driver's Cut Outfall and Tarke Outfall as per contract with DU and CWA. Jones and Stokes Associates began work on the environmental documents and permitting for these structures. B&A engineers developed preliminary designs for the water control structures and completed technical information required for the Project Description section of the environmental documentation.
- Ensign & Buckley Consulting Engineers (EB) continued communication with stakeholders and regulatory agencies regarding fish passage and fish screen hydraulic design for the White Mallard Dam and associated diversions. Work concentrated on rerouting supply to the Avis Channel Diversion for District 1004 through the 5-Points diversion. EB also conducted water rights investigations regarding relocation of diversions for Foraker, and concluded that relocation of diversion did not constitute utilization of a different source or amount of water under their existing water rights. ECORP Consulting Inc. attended the design team meeting and consulted with US Bureau of Reclamation regarding impacts of planned construction and diversion activities on the Sacramento Splittail.
- Continued meeting with Sutter Bypass Weir #1 stakeholders to discuss options. Reached consensus with stakeholders to replace the weir with a lower profile, easier to maintain structure. Reached agreement with Sutter National Wildlife Refuge and California Department of Water Resources to share in the maintenance of the weir. Montgomery Watson is developing preliminary plans for the structure for review by the stakeholders.

Cooperative Agreement/Fish Passage Issues:

- CWA contracted with Jones & Stokes environmental consultants to develop the Butte Sink Cooperative Agreement (Cooperative Management Plan). The consultants completed and distributed the Preliminary Draft Cooperative Management Plan to the clients and Stakeholders. During August, five informational Management Group meetings were held to fill data gaps about wetland management on each property and to discuss attendant fish passage issues. Meeting minutes were taken and are available. This information is currently being incorporated into the draft Management Plan.

CALIFORNIA BAY-DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT

As of: September 30, 2000

Agency: Anderson-Cottonwood Irrigation District

Proposal/Description: Fish Passage and Fish Screening Project – Phase III

Funds Provided: \$1,919,959.88 100 % of the Total Funds Provided

Funds Obligated: \$5,100,000.00 38 % of the Total Funds Provided

Funds Expended: \$2,202,846.15

Labor: \$ 18,800.08

Contracts (AE): \$ 442,559.00

Contracts (Construction): \$1,741,487.07

Overhead: \$ 0

Other: \$ 0

Physical progress during the quarter/Accomplishments:

- 1) August 30, 2000 the south ladder was significantly complete and passing water. All the cofferdam is removed.
- 2) North ladder cofferdam is complete, contractor to start de-watering last week of September. Then will start demolition of the old north ladder.

Physical 42 % Complete

Comments: In November the pace will pick up – once the irrigation canal is de-watered the contractor will be back working on the fish screens as well as working on the north ladder.

(I:\Contract\STANDRDS\REPORTS\ATTACH-A.WPD)

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT

As of: October 9, 2000

Document Control # 11420-9-J041

Agency: East Stanislaus Resource Conservation District

Proposal/Description: Grayson River Ranch Perpetual Conservation Easement and Restoration

Funds Provided: \$732,000 - \$286,950/ \$345,050* 33 % of the Total Funds Provided

Funds Obligated: \$82,405

Funds Expended: \$165,540 72% of the Total Funds Provided

Labor: \$0

Contracts (AE): \$62,995

Contracts (Const): \$139,390

Overhead: \$19,310

Other: \$26,250 easement acquisition

Physical progress during the quarter/Accomplishments: All permits were finalized. FWS approved the monitoring plan. Irrigation equipment partially installed. Construction was begun in August. The physical modifications to the property are nearly complete. Monitoring activities are being carried out.

Physical 75% Complete

Comments: The next several months will be used for planting area preparation. Planting will occur during appropriate weather conditions, probably December through February.

* The CALFED grant for this project was \$732,000. The USFWS, AFRP contributed funds for this project in advance of the availability of the CALFED funds to advance the acquisition date. Now, only \$345,050 of the CALFED grant is required to attain the original total project budget. CALFED has recently removed \$286,950 from the \$732,000 originally allocated to this project.

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT

As of: October 1, 2000

Agency: California Department of Fish and Game, Central Valley Bay-Delta Branch

Proposal/Description: The Hill Slough West Habitat Restoration Demonstration Project is a proposal to restore tidal action to approximately 200 acres of seasonal and permanent wetlands in northeastern Suisun Marsh. Implementation will be carried out in four phases (the first of which this funding covers) over approximately five years and is a collaborative effort to restore a transition from perennial aquatic habitat in Hill Slough to low marsh, high marsh, and upland transition.

Funds Provided: \$200,000 0% of the Total Funds Provided

Funds Obligated: \$200,000 0% of the Total Funds Provided

Funds Expended: \$ 33,462.33

Labor: \$ 4,333.64

Contracts (AE): \$ 24,594.64

Contracts (Const): \$ 0

Overhead: \$ 4,534.05

Other: \$ 0

Physical progress during the quarter/Accomplishments:

- Sedimentation assessment
- Watershed hydrology assessment
- Drainage and flooding assessment
- Salinity assessment
- Sedimentation and site evolution assessment

Physical: 45 % Complete

Comments: None

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**CALIFORNIA BAY DELTA
ENVIRONMENTAL ENHANCEMENT ACT**

INDIVIDUAL PROJECT PROGRESS REPORT

As of: 10/06/00

Agency: Department of Water Resources

Proposal/Description: Merced River Salmon Habitat Enhancement: River Mile 42-43.5 (Robinson Ranch and Gravel Mining Permit #307 Sites)

Funds Provided: \$2,443,000 31 % of the Total Funds Provided (% of project cost)

Funds Obligated: \$2,443,000 31 % of the Total Funds Provided (% of project cost)

Funds Expended: No funds billed out to date

Labor: 0

Contracts (AE): 0

Contracts (Const): 0

Overhead: 0

Other: 0

Physical progress during the quarter/Accomplishments: Project activities this quarter are project management, environmental documentation and surveys, and finalization of the design and engineering. The final design, with stakeholder comments, will be completed in late October, and the phased EA/IS is expected to be completed on October 31. Consultation with USFWS for VELB is currently in progress. The draft fish monitoring plan has been completed and work on the revegetation plan is ongoing. Negotiations for long-term easements within and surrounding the site have begun in earnest. The landowner continues to be supportive of the project.

Physical 0 % Complete

Comments: Estimated project cost increased from \$5.7 to \$7.9 million based on increased material cost estimates, construction and staff time, and monitoring and maintenance. Additional cost share finding was approved through through 4-Pumps (\$500,000) and the Tracy Fish Mitigation Agreement (\$250,000). The project was ranked high priority for funding

Attachment 1

through the PSP for CALFED and USFWS-AFRP funding (\$1,699,101).

**CALIFORNIA BAY DELTA
ENVIRONMENTAL ENHANCEMENT ACT**

INDIVIDUAL PROJECT PROGRESS REPORT

FWS Agreement #114209J012
DCN Agreement #11420-9-J038

As of: Sept 30, 1999

Agency: Napa County Land Trust

Proposal/Description: South Napa River Wetlands Acquisition and Restoration Program

Funds Provided:	\$431,000	0 % of the Total Funds Provided
Funds Obligated:	\$431,000	0 % of the Total Funds Provided
Funds Expended:	0	

Labor:	_____
Contracts (AE):	_____
Contracts (Const):	_____
Overhead:	_____
Other:	_____

NOTE: we have expended some dollars but we have not yet submitted any invoices to CALFED.
The amount is less than \$10,000 so we will not invoice you at this time.

Physical progress during the quarter/Accomplishments: The situation remains much the same as at the end of the last quarter. The offers that were presented to the owners of the parcels have been rejected as too low, although negotiations are still at least somewhat active. The owner of the property that has been our first priority for this grant continues to publicly complain about the low offer and he has been fighting to keep his property. There are three other properties in the area that the grant covers. They have also rejected the offers but have not been so vocal as to not wanting to sell. It is possible that one of these negotiations will eventually result in a sale. A reappraisal is in progress on this parcel. Otherwise, the County Flood Control District will continue its condemnation process.

Napa Flood Control has obtained through the courts the right to enter the properties and begin to do flood control work. That was their main immediate objective. Now the condemnation process will continue. We should be in a position to move forward on planning and restoration work in a few months.

Physical 80% Complete

Comments: We continue to work closely with Napa County Flood Control District, which currently controls the negotiation and condemnation process with the courts. Do not give this money away, the unwilling sellers may be just "posturing" and we might end up with a willing seller in due course. This is a very worthy project.

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT

As of: September 2000

Agency: City of Benicia

Proposal/Description: To prepare a restoration plan and obtain necessary permits for the Benicia
Marsh Restoration Project

Funds Provided: \$59,000 (CAL-FED) 57 % of the Total Funds Provided

Funds Obligated: \$44,460 (City) 43 % of the Total Funds Provided

Funds Expended: \$32,576.68 (CAL-FED)

Labor: _____

Contracts (AE): \$32,576.68 (CAL-FED)

Contracts (Const): _____

Overhead: _____

Other: _____

Physical progress during the quarter/Accomplishments: Conceptual restoration planning 100%

complete. Draft engineering drawings 95% completed. Specifications 90% completed.

Environmental review 85% completed.

Physical 85 % Complete

Comments: _____

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT

As of: September 30, 2000

Agency/Non-Profit: The Nature Conservancy

Proposal/Description: Cosumnes River Floodplain Acquisition

Funds Provided: \$0

Funds Obligated: \$750,000.00

Funds Expended: \$8,065.07

Physical progress during the quarter/Accomplishments:

The Nature Conservancy is in the process of requesting approval for acquisition of the Richard, Kathy, and Fred Denier property. Three (3) copies of the appraisal have been submitted to USFWS and approved, and a copy of the Contaminant Survey is to be submitted to USFWS upon completion. The Denier acquisition project, if approved, would help to protect existing riparian, wetland and aquatic habitats along the Cosumnes River, and in so doing, will provide positive benefits for east-side delta tributary fall-run chinook salmon, splittail and other targeted delta species.

The property consists of rectilinear 475 acre parcel which is bisected lengthwise by approximately one mile of Cosumnes River channel. Restoration of the floodplain through levee breaching and other techniques will benefit the same suite of species discussed above. The property is presently under a six month option (exercise date is no later than mid December 2000). The sale price is \$1.9 million (supported by an appraisal), to which we would propose that approximately \$708,000 of this grant be dedicated. These funds would be supplemented with funds from another CALFED grant and additional funding. Acquisition of this property would help complete linkage of the lower protected floodplain to the Valensin ranch portion.

Physical- 0% Complete

Title COSUMNES RIVER FLOODPLAIN ACQUISITION, RESTORATION PLANNING, AND DEMONSTRATION

Budget year: 30-Sep-00

Applicant: The Nature Conservancy

Statement Quarter: 30-Sep-00

USFWS Agreement #: 114209J076

Total Estimated Cost of Task I: \$750,000

Funding from Federal Bay-Delta Account \$750,000

(In-Kind Services would be listed here if applicable- note: Detail of the service provide would be included.)

Phase I schedule 2 years

Project Completion Date: 30-Sep-01

TASK I
(Quarterly Budget)

TASK I
(FY '00 Budget)

TASK I
(Project Budget)

	Accrued				Accrued				Remaining	Accrued				Balance to
	Budget	Expenditures	Variance	**	Budget	Expenditures	Balance	**		Budget	Expenditures	Complete	**	
Task I: Cosumnes River Floodplain Acquisition, Restoration Planning, and Demonstration	\$3,000	\$2,633	\$367		\$8,600	\$8,065	\$535			\$750,000	\$8,065	\$741,935		

Total:	\$3,000	\$2,633	\$367		\$8,600	\$8,065	\$535			\$750,000	\$8,065	\$741,935	
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**** Explanation of Budget**

(1) Negotiations are currently in progress for Task #1 Acquisition. See programmatic report.

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT

As of: **September 30, 2000**

Agency: **The Nature Conservancy**

Proposal/Description: **Deer and Mill Creeks Acquisition and Enhancement**

Funds Provided: _____ % of the Total Funds Provided

Funds Obligated: **\$1,000,000** _____ % of the Total Funds Provided

Funds Expended: _____

Labor: **\$ 1,531**
Contracts (AE): **200** *
Contracts (Const): _____
Overhead: **306**
Other: _____

TOTAL: **\$ 2,037**

Physical progress during the quarter/Accomplishments: **Funding for the protection of four properties along Mill and Deer Creeks was provided under the signed cooperative agreement and negotiations on all four properties are underway. An option for the purchase of one of the properties is being drafted. Previously, we were negotiating a conservation easement and for a variety of reasons, the deal has changed to a fee purchase. As the property will be resold into private ownership with a conservation easement, grant funding will only be requested for a portion of the fee value of the property. Although this acquisition was anticipated to be completed by December 2000, it is now scheduled for 2001 as we are trying to negotiate the resale of the property.**

_____% Budget Complete

Comments: *The Nature Conservancy will not pursue \$3,840 in pre-award appraisal and related indirect costs as originally reported because it will be necessary to reappraise the property in question for a conservation easement acquisition instead of fee title acquisition. The Nature Conservancy has

also incurred \$1,498 in pre-award labor and labor indirect costs related to this project.

Applicant: The Nature Conservancy.
CALFED Project Number: #99-XX####
FWS DCN#11420-9-J048
FWS AGMT#114209J075

Total Estimated Cost of Phase I:	\$1,000,000
Funding from Federal Bay-Delta Account	1,000,000

Phase I schedule	3 years
Total Project Estimated Completion Date:	3 years

PHASE I
(Quarterly Budget)

PHASE I
(FY '00 Budget)

		Accrued			Accrued		Remaining
		Budget	Expenditure:	Variance	Budget	Expenditures	Balance
Task 1:	Acquisition	\$500	\$661	(\$161)	\$5,000	\$2,037	\$2,963
	Schedule: FY '99 through FY '01						
	Percent Work Complete for Task 1: 0%						

Phase I Total:	\$500	\$661	(\$161) *	\$5,000	\$2,037	\$2,963 *
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** Please explain significant variance.

The Nature Conservancy will not pursue \$3840 in preaward appraisal and related indirect costs as originally reported because it will be necessary to reappraise the property in question for a conservation easement acquisition instead of a fee title acquisition. Also, reported labor costs have been reduced due to unallowable pre-award costs.

Budget year: 2000

Statement Quarter: Sep-00

PHASE I
(Three Year Budget)

Budget	Accrued Expenditures	Balance to Complete
\$1,000,000	\$2,037	\$997,963

\$1,000,000	\$2,037	\$997,963	
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2. **Project Title:** Assessment of Ecological and Human Health Impacts of Mercury in the Bay-Delta Watershed

Contract No. 99-FC-20-0241

CALFED # 99-B06

POC: Max Puckett, Moss Landing

CALFED Recommended Level of Funding:	\$3,800,000
Funds Obligated Through September 30, 2000	\$3,800,000
Total Funds Expended Through September 30, 2000 (estimate):	\$800,000

Funding provided to: USBR agreement signed with San Jose State University Foundation on September 30, 1999

Program Description: This funding is for the purpose of completing a series of detailed scientific studies to quantify, assess and evaluate existing mercury levels. It is critical to the success of future restoration activities that there is a better understanding of information that will lead to the reduction of mercury in resident fish tissues to levels that are not harmful to humans or wildlife. In order to ensure ecosystem restoration activities do not contribute to a human health risk from mercury contamination, studies need to be undertaken to better understand: (1) The most bioavailable source of mercury in the watersheds; (2) Where the most active methylation is occurring downstream.; (3) Existing levels of mercury in sport fish to better evaluate the potential human health risk; (4) Whether mercury levels are high enough to affect birds in the Delta; and (5) How mercury mines and mercury in contaminated sediments can be better managed. The objective of these studies is to provide data that will lead to a reduction of mercury in resident Delta fish to levels that are not harmful to humans or wildlife.

Completion Date: September 30, 2002

Fourth Quarter (FFY 99/00)Accomplishments: Completed several subcontract adjustments, including removal of USFWS subcontract in order to directly contract them from USBOR. Prepared amendment for submittal to USBR, in order to amend existing contract to reflect and incorporate revisions to workplan and minor revisions to budget suggested by Scientific Review Committee. This amendment, when executed, will incorporate CALFED-approved increased funding of \$364,000. Continued extensive field sample collection and laboratory analytical work on Cache Creek and Sacramento River area mercury studies. Continued extensive field sample collection and laboratory analytical work on the Bay-Delta area mercury studies. Work began on in-vitro and in-vivo avian egg contamination studies through USGS at their lab in Patuxent, MD. Numerous project Principal Investigator meetings were held to coordinate and review field and laboratory work. Extensive Quality Assurance program continued, including second intercalibration exercise, lab inspections, protocol reviews, etc. Began planning for second (mid-project) Scientific Review Committee meeting. Various P.I.'s prepared presentations/posters for upcoming CALFED Scientific Conference.

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**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: 9/30/00

Agency: Tehama-Colusa Canal Authority

Proposal/Description: Fish Passage Improvement Project at the Red Bluff Diversion Dam,
(Portion of Phase II)

Funds Provided: \$1,390,000 100 % of the Total Funds Provided

Funds Obligated: \$1,390,000* 100 % of the Total Funds Provided

Funds Expended: \$449,916.64

Labor: _____

Contracts (AE): \$449,916.64

Contracts (Const): _____

Overhead: _____

Other: _____

Physical progress during the quarter/Accomplishments: **(Second Quarter of Work)**

Task 1: (Preliminary Design of Feasible Alternatives) - Schematic design drawings and report, geotechnical and environmental site observations and memoranda, cost estimates, began detailed preliminary designs, completed bathometric field surveys and prepared for and conducted various meetings with the resource agencies

Task 2: (Evaluate Alternatives) - Initiated task

Task 3: (Screen Alternatives) - No work performed during quarter

Task 4: (Environmental Documentation, Part 1) - Initiated task, held public scoping and stakeholders meetings

Task 7: (Project Management) - Prepared project instructions, work plans, status reports and invoicing

Physical 32.37 % Complete

Comments: *Pays for: **100% of Tasks 1, 2, and 3,
25% of Task 4, and**

**38.46% of Task 7
of the Red Bluff Fish Passage Improvement Project**

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: **July 2000**

Agency: **U.S. Fish & Wildlife Service**

Proposal/Description: **CALFED No. 99-B08 , Improving the Upstream Ladder and Barrier Weir at Coleman National Fish Hatchery**

Funds Provided: **\$1,663,400.00** **100 %** of the Total Funds Provided

Funds Obligated: **\$525,543.00** **32%** of the Total Funds Provided

Funds Expended: **0**

Labor: _____

Contracts (AE): _____

Contracts (Const): _____

Overhead: _____

Other: _____

Physical progress during the quarter/Accomplishments: **An interagency agreement between the Service and BOR was signed on July 20, 2000. This agreement established BOR as project designer and manager. Only \$525,543 of total estimated project cost was obligated under this agreement, which at this point does not include project construction –only design and completion of environmental documentation. Subsequent to completion of design and environmental documentation, the agreement will be amended to included project construction and the remainder of the funds will be obligated. Preliminary survey and inspection work has started but actual project design has not yet commenced. Billings for preliminary survey work are expected over the next few months. Design and environmental work is expected to be finished by May of 2001.**

Physical 0 % Complete

Comments:

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: 10/06/2000

Agency: **U.S. Bureau of Land Management** - Calfed Action #99-B12

Proposal/Description: **Riparian Corridor Acquisition and Restoration Assessment** 99-B12

Funds Provided: **\$2,175,000.00** 100 % of the Total Funds Provided

Funds Obligated: \$1,689,000 78 % of the Total Funds Provided

Funds Expended: \$1,609,000

Labor: 0

Contracts (AE): \$80,000

Contracts (Const): 0

Overhead: 0

Other: **\$1,609,000** (easements)

Physical progress during the quarter/Accomplishments:

As of 10/05/2000 BLM and TPL were successful in acquiring phase I of the conservation easements and associated water rights for \$1,609,000.

Additionally, \$80,000 has been obligated (but not expended) for the riparian meander study with DWR.

Physical 80 % Complete

Comments:

For the easement acquisitions and water right purchase the Calfed funds were matched with an equal amount of Packard Foundation funds.

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**Sustainable Cotton Project: Biological Agricultural Systems in Cotton (BASIC)
Reducing Synthetic Pesticides and Fertilizers in the Northern San Joaquin Valley**

Quarterly Report: July – September 2000

Project Summary. The Sustainable Cotton Project (SCP) has developed a technical support program, known as Biological Agricultural Systems in Cotton, or BASIC, and made it available to cotton farmers in the Northern San Joaquin Valley. Cotton farmers adopting BASIC growing practices have dramatically reduced (by 80% or more) their use of insecticides and miticides – many of which are acutely toxic to fish and other aquatic species – and reduced fertilizer applications by approximately 50%, all without suffering economic loss. A CALFED grant to SCP was approved by the Secretary of the Interior on August 3, 1999, for the purpose of significantly expanding the number of farmers using BASIC practices. The project's quantitative goal, as stated in the proposal, is to increase acreage under BASIC management practices by 15,000 to 20,000 acres by December 2001. The project is currently bringing acreage under BASIC management at a greater rate than anticipated and it is now expected that the project's quantitative goal will be exceeded.

At the time the proposal was submitted in 1999, SCP had spent four growing seasons building the credibility of the BASIC program among cotton farmers. The program had developed an impressive enough track record, and SCP proposed to CALFED that if sufficient resources were made available in advance of the 2000 growing season, significant expansion of the program would be possible over the 2000 and 2001 seasons.

Unfortunately, CALFED was unable to process the contract with SCP on a timeline allowing CALFED funding to be received when needed to assist in recruitment of farmers for the 2000 growing season. As noted in the proposal timeline, new growers need to be recruited between November and March. In addition, a BASIC management team and monitoring protocols sufficient to serve the enrolled acreage must also be put in place by March (2000).

In order to stay on schedule toward meeting the project's goal and to preserve the BASIC program's momentum, SCP, with CALFED program officer encouragement, launched the project, and supported it through the first half of 2000, with funding from other (non-governmental) sources. Even though the CALFED contract had not yet been finalized, the seasonal nature of farming made it impossible to push the start date of the project back. We are now requesting that CALFED amend the agreement with SCP to allow the approximately \$73,000 expended between January 1, 2000 and July 31, 2000 to be counted toward meeting SCP's requirement for matching funds for the first year of the project. These expenditures equal the 25% match required for the approximately \$202,800 that SCP anticipates will be invoiced to CALFED by the end of the first project year.

CALFED's flexibility in allowing SCP to begin the project with matching funds has been absolutely essential to the project's success. Waiting until the contract was signed would have

meant losing an entire growing season, losing the BASIC management team, jeopardizing the EPA funding for the BASIC program's University of California conducted scientific monitoring and data analysis, and seeing much of the program's momentum dissipated. As it is, the project has slightly exceeded its goals for 2000 and is expected to more substantially exceed them in 2001. In addition, another year of data is being collected that SCP is confident will further demonstrate that farmers in the Northern San Joaquin Valley can produce economically viable cotton with very little use of pesticides, especially those known to be toxic to fish and other aquatic organisms.

Listed below are program accomplishments to date, following the task structure outlined in the agreement.

Program Accomplishments to Date:

Task I: Continue Coordinating and Expanding BASIC Program in the Northern San Joaquin Valley.

In order to build the program's capacity and provide technical support to at least 25 growers, the BASIC team enhanced its staff, adding a new position of outreach coordinator, signed new contracts with mentor farmers, and recruited five field scouts.

From January through April, field staff recruited new growers. As in previous years, it was expected that recruitment of sufficient growers to meet the goal of 25 would require placing ads in local papers and buying time on local radio. Because CALFED funding was not yet available, SCP was unable to support this type of outreach. Instead, BASIC field staff made a concerted effort to recruit growers through face-to-face meetings and presentations at farmers' gatherings. Consistent with CALFED goals, emphasis was placed on recruiting growers managing acreage either directly adjacent to the San Joaquin River, or whose drainage flowed directly or indirectly to the river. These efforts, aided by the increasing credibility of BASIC techniques, were successful. A total of 25 growers were enrolled in the program by the beginning of the growing season. Program participants are listed in Attachment 1.

Field staff provided each program participant with a written agreement detailing both the services available through the BASIC program and the responsibilities of program participants in terms of implementing BASIC production practices (designed to reduce pesticide and fertilizer use) and allowing data collection on their farms.

During April, field staff began developing a monitoring plan. They mapped the enrolled fields, worked out pest scouting strategies, finalized arrangements for data collection with University of California researchers, and agreed upon the responsibilities of each team.

Each enrolled grower was asked to implement the management protocols listed in Attachment 2 (BASIC Practices Chart) and was assigned to a mentor grower or PCA with previous BASIC experience. The mentor growers and PCAs remain on call throughout the growing season to

help enrolled growers implement the BASIC protocols and to assist with any problems that arise.

In May, BASIC field scouts began monitoring fields enrolled in the program to measure plant growth and insect pressure. The field scouts released beneficial insects for pest control on a weekly basis, alleviating the need for pesticide spraying in the vast majority of cases. Each week, data on pests, beneficial insects, and plant growth was entered in a database, printed out in report form, and sent to the growers. This data not only helps growers track the health of their crops, but also helps give them the confidence to avoid unnecessary applications of pesticides and fertilizers. An example of a crop data report is enclosed as Attachment 3.

Task II: Conduct outreach efforts to increase acreage under BASIC management by 50-75% per year through 2002 in the Northern San Joaquin Valley.

While Task I is concerned with recruiting growers in the current year, Task II, focusing beyond this year's program participants, seeks to build increasing interest in, and knowledge of, the BASIC program among as wide an audience of cotton farmers in the Northern San Joaquin Valley as possible.

Task II activities completed to date include:

- An open-house style meeting for potential new growers, held on January 26, to showcase the BASIC production system. A weed control expert attended the meeting to discuss options for mechanical (vs. chemical) weed control.
- Successfully placing two major articles on the BASIC program (both published in March) in the farm press. One article was in the California-Arizona-Texas farm press and one in Progressive Farmer. The articles are attached.
- A June 10 workshop conducted by our field staff and two of our mentor growers at an ecological farming conference held at Cal State Stanislaus. The purpose of the workshop was to demonstrate the effectiveness of the BASIC program and to interest more growers in trying the reduced-chemical methods.
- A June 27 field day, at which 3 different field cultivators were demonstrated.

One shortcoming of the program was the failure to publish a BASIC program newsletter on a monthly basis throughout the 2000 growing season. This resulted from our shortage of funding through the first half of the year. As the technical support and data collection functions of the program were judged more essential, publication of the newsletter was deferred until CALFED support was received. When CALFED funding was imminent, in late August, the newsletter was launched. The first newsletter is enclosed as Attachment 4. In future, SCP anticipates sending newsletters on a monthly basis to approximately 200 cotton farmers.

Task III: Scientifically document changes in biodiversity, volume of toxic chemical release, and economic performance as a result of BASIC management practices.

University of California research staff have been working closely with BASIC staff to coordinate data collection tasks throughout the growing season.

Data collection consists of:

In-season field monitoring. In April, University of California (UC) researchers selected a 25 to 30 acre field in each BASIC grower's production area and paired that area with a nearby conventional cotton field. On a weekly basis throughout the growing season, UC researchers collected data from each field on pest insect and mite populations, beneficial insect and mite populations, and plant growth characteristics (including plant height, number of nodes, and square [flower bud] and boll retention). This data, complemented by data taken weekly by BASIC field scouts, was used by the BASIC Management Team to make appropriate pest control recommendations.

Data collection and dissemination. Beginning in April, UC researchers and BASIC field scouts sent monitoring reports to the SCP Central Office each Friday. The office merged these two sets of data and the organized information was sent out to all grower participants by the following Monday. This real-time University/BASIC field scout data set was a powerful tool in reducing the use of farm chemicals among enrolled growers.

Pesticide and Fertilizer Use reduction and crop yield analysis. At the end of the growing season, SCP and the University of California will gather and analyze information on pesticide and fertilizer use; crop quality and yields; and grower costs of production. The results of this analysis will be communicated to CALFED in subsequent reports. Preliminary indications, however, are that BASIC growers have sprayed an average of one time or less for insect or mite control during the entire 2000 growing season. This compares to six sprays or more by neighboring conventional growers.

One piece of good news is that the UC research effort has been funded for 2001 through EPA's PPIS fund. This grant ensures that a full complement of scientific data will be collected throughout the entire CALFED contract period.

Task IV: Conduct on-farm tests of methods that might further reduce the use of toxic herbicides and synthetic fertilizers.

Cotton farmers in the Central Valley annually use over 4 million pounds of herbicides to control weeds. One of the most common, Trifluralin, is recognized by the EPA as a possible human carcinogen (US EPA, 1996), and according to the USGS, is a common contaminant of the San Joaquin River (USGS, 1996). In addition to Trifluralin, cotton farmers routinely use the herbicides Prometryn, and Cyanazine, both of which are highly toxic to fish and crustaceans.

At planting time, during March and April, BASIC mentor farmers tested a technique called capping, as a demonstration for project participants. Capping requires no chemical inputs and

involves only one extra pass with a tractor approximately two weeks after planting. Results from the capping trials were remarkable. Capped fields required less than half the follow-up hand weeding needed in uncapped/untreated comparison fields. Consequently, capping will be integrated as a standard BASIC practice in future years.

In-season weeding trials have also been conducted. These trials evaluated the effectiveness of mechanical cultivators designed to replace herbicide treatments or weeding by hand. University of California researchers helped design the trials and gathered the data, testing three different cultivators for effectiveness on the farm of a mentor grower. The cultivators tested were a Bezzarades In-Row Cultivator, a Buffalo Cultivator, and a flame weeder designed and built by the grower. Results from the trials will be evaluated at the end of the season. If outcomes are positive, grower participants will be urged to adopt these practices during the next growing season.

Our overall goal is to reduce by at least 50% the use of synthetic herbicides in BASIC enrolled fields, replacing them with a combination of cultural and mechanical strategies.

Task V: Reporting to CALFED.

Reports will be filed as required by the Cooperative Agreement.

Budget summary: From January through July 2000, SCP spent \$73,000 in non-federal CALFED project funds to support the program activities described above. SCP has put in its first request for CALFED funds, for expenditures incurred after August 1, 2000 (CALFED contract finalized July 31, 2000). To keep the project alive until this time, it has been necessary to spend all non-federal funds available for the project for the first year of the project. This makes it essential for SCP to use CALFED federal funds to support all allowable BASIC program expenses from August 1st until all the federal portion of the funds (\$202,736) have been expended for the first year of the grant period. Viewed over the course of the entire calendar year, SCP will be providing 25% of the total CALFED project expenditures, as agreed in the contract.

As indicated above, work is well underway in all task areas. The bulk of the CALFED and matching private funds supporting this project are being applied to activities in the Task I, II and IV areas. Task III activities are largely supported by in-kind funds channeled through the University of California. As the growing season ends in the coming weeks, the emphasis will shift from field monitoring and mentoring to data analysis and grower recruitment for the 2001 season.

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT

As of: 9/30/00

Agency: Placer County Water Agency

Proposal/Description: Duncan/Long Canyon Paired Watershed Project

Funds Provided: \$83,600 100 % of the Total Funds Provided

Funds Obligated: \$83,600 100 % of the Total Funds Provided

Funds Expended: \$25,345.44

Labor: 0

Contracts (AE): \$25,345.44

Contracts (Const): 0

Overhead: 0

Other: 0

Physical progress during the quarter/Accomplishments:

All work accomplished this quarter has been for Task 1. The snowmelt assessment has been completed and other climatological data has been prepared for the PRMS. Baseflow synoptic stream measurements have been completed. The PRMS model has been calibrated to the hydrological record. The watershed have been field reviewed to identify source areas of baseflow, and to identify geomorphological features, verify regional geologic mapping, and determine vegetation and their relationship to baseflow source areas. Channels have been checked for streamflow and stability characteristics. Completion of Task 1, including HRU determination and the model completion along with prediction of watershed hydrology, awaits input of requested soils and vegetation information from the USFS. Tasks 2 and 3 are primarily USFS tasks and should commence this fall.

Physical 62 % Complete

Comments: see above

Duncan/Long Canyon Paired Watershed Project

Applicant: Placer County Water Agency

CALFED Project Number: 99-B15

USBR Contract: 00FC200013

Budget Year:

Statement Quarter:

2

Total Estimated Cost of Project:	\$105,600
Funding by Federal Bay-Delta Account	\$83,600
Funding by U.S. Forest Service	\$8,000
In-kind Services: Placer County Water Agency	\$10,000
In-kind Services: National Resources Conservation Service	\$2,000
In-kind Services: Placer County Resource Conservation District	\$2,000

Total Project Estimated Completion Date: 2 years

Task Description		Quarterly Budget				Total Budget			
		Budget	Accrued Expenditures	Variance	**	Budget	Accrued Expenditures	Remaining Balance	**
Task 1	Precipitation-Runoff Modeling System setup Percent Work Complete For Task 1: %	\$9,100	\$20,501	-\$11,401		\$45,420	\$25,345	\$20,075	
Task 2	Develop GIS framework Percent Work Complete For Task 2: %	\$2,080	\$0	\$2,080		\$2,080	\$0	\$2,080	
Task 3	Develop land use disturbance and watershed condition chrono-sequence Percent Work Complete For Task 3: %	\$4,500	\$0	\$4,500		\$9,120	\$0	\$9,120	
Task 4	Run Precipitation-Runoff Modeling System Percent Work Complete For Task 4: %	\$0	\$0	\$0		\$13,540	\$0	\$13,540	
Task 5	Develop project report Percent Work Complete For Task 5: %	\$0	\$0	\$0		\$13,440	\$0	\$13,440	
Project Total:		\$15,680	\$20,501	-\$4,821		\$83,600	\$25,345	\$58,255	

**** Explanation of Variance in Budget:**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	Duncan/Long Canyon Paired Watershed Project																			
2	Applicant: Placer County Water Agency																			
3	CALFED Project Number: 99-B15																			
4	USBR Contract: 00FC200013																			
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15			1st Quarter Budget			2nd Quarter Budget			3rd Quarter Budget			4th Quarter Budget			5th Quarter Budget			Total Budget		
16	Task Description		Budget	Expenditure	Variance	Budget	Expenditure	Variance	Budget	Expenditure	Variance	Budget	Expenditure	Variance	Budget	Expenditure	Variance	Budget	Accrued Expenditures	Remaining Balance
17	Task 1	Precipitation-Runoff Modeling System set	\$27,250	\$4,845	\$22,406	\$9,100	\$20,501	(\$11,401)	\$9,070		\$9,070	\$0		\$0	\$0		\$0	\$45,420	\$25,345	\$20,075
18																				
19																				
20																				
21	Task 2	Develop GIS framework	\$0		\$0	\$2,080		\$2,080	\$0		\$0	\$0		\$0	\$0		\$0	\$2,080	\$0	\$2,080
22																				
23																				
24	Task 3	Develop land use disturbance and watershed condition chrono-sequence	\$0		\$0	\$4,500		\$4,500	\$4,620		\$4,620	\$0		\$0	\$0		\$0	\$9,120	\$0	\$9,120
25																				
26																				
27	Task 4	Run Precipitation-Runoff Modeling System	\$0		\$0	\$0		\$0	\$2,700		\$2,700	\$6,800		\$6,800	\$4,040		\$4,040	\$13,540	\$0	\$13,540
28																				
29																				
30	Task 5	Develop project report	\$0		\$0	\$0		\$0	\$0		\$0	\$2,700		\$2,700	\$10,740		\$10,740	\$13,440	\$0	\$13,440
31																				
32																				
33	Project Total:		\$27,250	\$4,845	\$22,406	\$15,680	\$20,501	(\$4,821)	\$16,390	\$0	\$16,390	\$9,500	\$0	\$9,500	\$14,780	\$0	\$14,780	\$83,600	\$25,345	\$58,255
34																				
35																				
36	INSTRUCTIONS TO PREPARE CALFED QUARTERLY REPORT :																			
37																				
38	1. On the worksheet, enter the expenditure for each task in a particular budget quarter																			
39	2. Then proceed to the particular budget quarterly report																			
40	a. Enter budget year in cell (I1)																			
41	b. Enter number of quarter report in cell (I2)																			
42	c. Number the significant variances in the "" column and briefly explain in area below table																			
43	d. Enter % completion of each task in column B																			
44	e. Print the quarterly report																			

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: 10-19-00

Agency: Department of Water Resources

Proposal/Description: Determination of the Causes of Dissolved Oxygen Depletion in the San Joaquin River

Funds Provided: \$866,408 100% of the Total Funds Provided

Funds Obligated: \$649,932 75% of the Total Funds Provided

Funds Expended: \$216,476

Labor: **\$196,476**

Contracts (AE): **20,000**

Contracts (Const): _____

Overhead: _____

Other: _____

Physical progress during the quarter/Accomplishments: During the reporting period we finalized subcontracts and conducted 90% of the fall sampling program including upstream load, downstream load, sedimentation rate, algae growth, water quality and established a continuous monitoring network. Work began on the data base and literature review.

Physical 90% Complete

Comments: Although contractors are not completed, all contract projects went forward without major problems. Reimbursement funds listed include \$20,000 for modeling, and \$15,000 for data analysis.

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: October 10, 2000

Agency: Department of Water Resources

Proposal/Description: _____

Evaluation of the Impacts of Mitten
Crabs on the Benthic Community in the
Sacramento-San Joaquin Delta.

CALFED #: 99-B18

USBR Agreement :142599FC200246

Funds Provided: \$ **147,799**

100 % of the Total Funds

Provided

Funds Obligated: \$ 147,799 100 % of the Total Funds Provided

Funds Expended: \$ 14,763.63

Labor: 13,447.01 (includes overhead)

Contracts (AE): 0.00

Contracts (Const): 0.00

Overhead: 0.00

Other: 1,316.62 (equipment acquisition)

Physical progress during the quarter/Accomplishments: Monthly field sampling using an otter trawl continues, the purpose of this sampling is to detect presence/absence of mitten crabs at the study sites. To date seven crabs have been collected at the eight study sites. A pilot study for the enclosure/exclosure portion of this project was conducted in September. Two enclosure cages were set out at Twitchell Island (D16) for ten days, one cage was stocked with two crabs and the second cage was left empty as a control. After ten days both crabs had escaped by burrowing. The main objective of the pilot study was to test enclosure cage design. Modifications will be made to the enclosure cages this winter and sampling for this task will begin in spring 2001.

Physical 6 % Complete

Comments:

CALFED Report Format

Evaluation of the Impacts of Mitten Crabs on Benthic Community in the Sacramento-San Joaquin Delta

Applicant: U.S. Bureau of Reclamation

CALFED Project Number: 99-B18

USBR Contract: # 142599FC200246

Total Estimated Cost of Phase I: 147,799

Funding from Federal Bay-Delta Account 0

Funding from U.S. Bureau of Reclamation 147,799

Project Schedule: 14 months

				Quarterly Budget			FY 2000 Budget		
				Budget	Expenditures	Variance	Budget	Expenditures	Variance
Task: Implementing field monitoring				\$14,763.63	\$14,763.63	\$0.00	\$133,814.05	\$14,763.63	\$119,050.42
Schedule: FY 1999 through FY 2001									
Percent Work Complete for Task: 3%									
Equipment Acquisition				\$1,316.62	\$1,316.62	\$0.00	\$4,500.00	\$1,316.62	\$3,183.38
Labor (literature search, database creation, field prep, conducting monitoring, reporting)				\$13,447.01	\$13,447.01	\$0.00	\$129,314.05	\$13,447.01	\$115,867.04
Phase Total				\$14,763.63	\$14,763.63	\$0.00	\$133,814.05	\$14,763.63	\$119,050.42

* Field monitoring days longer than anticipated.

Budget Year:2000/01
Statement Quarter: 3

Project Budget		
Budget	Expenditures	Variance
\$147,799.00	\$28,748.58	\$119,050.42
\$6,000.00	\$2,809.53	\$3,190.47
\$141,799.00	\$25,939.05	\$115,859.95
\$147,799.00	\$28,748.58	\$119,050.42

Attachment B

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: 10-02-2000

Agency: U. S. Fish and Wildlife Service, CA-NV Fish Health Center

Proposal/Description: Health Monitoring of Hatchery and Natural Fall-run Chinook

Juveniles in the San Joaquin and Delta

Funds Provided: \$37,860 100 % of the Total Funds Provided

Funds Obligated: \$ 1,452 4 % of the Total Funds Provided

Funds Expended: \$24,529

Labor: \$18,610

Contracts (AE): _____

Contracts (Const): _____

Overhead: _____

Other: \$5,919 Supplies/materials

Physical progress during the quarter/Accomplishments: See attached Word file for progress during April - June quarter - no report filed since we had not yet received funding and didn't know when we would (funding notification was received on 7/24/2000).

July - September 2000 - Laboratory analysis started. Remaining \$11,879 earmarked for remaining lab analysis - materials and labor.

Physical 75 % Complete

Comments: Laboratory data analysis are still pending for a large portion of the specimens.

Progress Report for CALFED project #99B-19

Health monitoring of hatchery and natural Fall-run chinook juveniles in the San Joaquin River and delta, April – June 2000

Field sampling for this study began on 29 March 2000 and ended on 7 June 2000. Laboratory data analysis are still pending for a large portion of specimens. A total of 182 Fall-run chinook salmon juveniles were collected including: 71 unmarked fish prior to hatchery release (presumed natural), 30 Merced River Fish Facility (MRFF) fish in the San Joaquin River (in-river), 12 unmarked fish (presumed hatchery/natural mix) in-river, and 69 mixed Sacramento/San Joaquin Rivers hatchery origin fish captured in the delta. Thirteen of the 69 fish captured in the delta were from MRFF. An additional 60 fish were sampled at MRFF for baseline pathogen and physiological data.

In-river sampling of naturally produced Fall-run chinook salmon juvenile occurred 29 March through 13 April, 2000. Three sample trips were made with the San Joaquin River beach seine (seine) crews and one trip with the Mossdale trawl crews. In-river sampling of MRFF origin fish occurred between 18 April and 7 June 2000. Ten sample trips were made with Mossdale trawl crews. Sampling of marked fish in the delta occurred from 4 May to 24 May 2000. Five sample trips were made with the Chipps Island trawl crews. Sampling was conducted in conjunction with biomonitoring projects conducted by the US Fish and Wildlife Service Sacramento/San Joaquin Estuary Fisheries Resource Office (Seine, Mossdale trawl, Chipps Island trawl) and California Department of Fish and Game (Mossdale trawl). The Merced River Fish Facility is operated by the California Department of Fish and Game.

Due to the speed that fish moved through the system after release, only 30 in-river marked fish were sampled, and all were caught on 18 April. In-river sampling depended heavily on the Mossdale trawl efforts. Catch on the Mossdale trawl was variable, and sample days did not correspond well to peak catch days (Figure 1). Due to the time requirements to process fish and typical peak catches in the early morning, sampling was concentrated on the first five of 10 or 20 tows made at Mossdale. Twelve unmarked fish (mixed hatchery/natural) were taken on 1 June as a late season representative in-river sample.

No viral or obligate bacterial pathogens were detected in any of the fish sampled. Physiological data analyzed so far appears normal for all sample locations and dates (Table 1). Condition factors were higher in the natural in-river fish than all other groups (ANOVA, $P < 0.05$). This may have been due difference in sample method for most of the natural fish. Condition factor tends to decline during smoltification, and natural fish, sampled by seine, may have been less developed compared to hatchery smolts caught by trawl. Percent body lipid was lower in natural fish than hatchery fish at release (ANOVA, $P < 0.05$). Late in the season, lipid reserves of out-migrant hatchery fish tend to mirror the natural cohorts; however, this change was not detected with our small sample size. Gill-ATPase activity generally increased over time with late in-river values higher than pre-release hatchery, early in-river, or natural (ANOVA, $P < 0.05$).

Figure 1. Catch at Mossdale trawl sample site. Unmarked fish (all fish) prior to 4/15 were considered naturally produced.

Table 1. Physiological data for naturally produced (natural) and Merced River Fish Facility (MRFF) Fall-run chinook salmon captured in the San Joaquin River and delta. Data given as Mean \pm SE and sample size.

Group	In-river Natural	Pre-release MRFF	Early in- river	Late in-river	Delta
Fork Length (mm)	65 \pm 1 n=71	68 \pm 2 n=55	83 \pm 1 n=30	93 \pm 2 n=12	86 \pm 2 n=13
Weight (g)	3.2 \pm 0.1 n=71	3.8 \pm 0.3 n=31	6.1 \pm 0.3 n=30	8.5 \pm 0.6 n=12	6.8 \pm 0.4 n=13
Condition Factor	1.13 \pm 0.01 n=71	1.05 \pm 0.01 n=31	1.07 \pm 0.01 n=30	1.03 \pm 0.03 n=12	1.05 \pm 0.03 n=13
(Wt/FL ³)*10 ⁵	b,c,d,e	a	a	a	a
Body Lipid (%)	3.1 \pm 0.2 n=23 b,c	5.2 \pm 0.3 n=12 a	5.2 \pm 0.5 n=10 a	3.5 \pm 0.5 n=4	4.5 \pm 1.1 n=5
Gill ATPase (μ mol ADP/mg	5.1 \pm 0.4 n=49	2.6 \pm 0.4 n=12	5.3 \pm 0.5 n=16	9.4 \pm 0.6 n=11	7.2 \pm 1.0 n=12

protein/hr)	b,d	a,c,d,e	b,d	a,b,c	b
Statistically significant differences (by ANOVA, P<0.05)					
a = different from in-river natural					
b = different from pre-release MRFF					
c = different from early in-river					
d = different from late in-river					
e = different from delta					

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: **9/30/00**

Agency: **Water Education Foundation**
Proposal/Description: **Journalists Tour of the Bay Delta and Wetland Briefing
00-FC-20-0017**

Funds Provided: **\$32,300**

Funds Obligated: **\$32,300**

Funds Expended: **\$21,530**

Labor: **\$14,700**

Contracts (AE): **3,058**

Contracts (Const): **0**

Overhead: **2,550**

Other: **1,222**

Physical progress during the quarter/Accomplishments:

The Journalists Tour is completed.

The Wetlands Briefing (California Wetlands: A Briefing) was delayed due to a lack of response by reviewers due to the similarly timed preparation and finalization of CALFED's Record of Decision. To rectify this, the draft publication was re-circulated after the completion of the ROD and personal phone calls were made to each reviewer to encourage response. At the present time all but two reviewers have provided comments on the draft. The draft is now being edited and will be completed by the new deadline, November 30, 2000.

Physical **90% Complete**

Project Title: Mining Reach -- Ruddy Segment

Tuolumne River Restoration Project

Start Date

21-Jan-00

Applicant:

Turlock Irrigation District

Period Ending

30-Sep-00

Contract number: AFRP

1448-113: 9-J025

Contract number: CF- USBR

same

Funding:

Source	AFRP	CF-USBR	Districts	Total	Project	Balance
Amount	1,962,516	3,235,000	75,000	5,272,516	Funding	to be
	-	-	40,000	40,000	Request	Funded
	1,962,516	3,235,000	115,000	5,312,516	6,455,000	1,142,484

Change Order #1

Task Description		Funding Source	Percent Complete	Quarterly Budget ending 30-Sep-00			FY 2000 Budget			Total Budget		
				Budget	Qtr. to Date	Balance	Budget	Year to Date	Balance	Budget	Total to Date	Balance
CEQA-NEPA-PERMITS												
EDAW	Districts	0%	10,000	-	10,000	25,000	-	25,000	90,000	-	90,000	
Mitigation Surveys		0%		-	-		-	-	12,000	-	12,000	
subtotal			10,000									
PROJECT MONITORING												
M&T - Ruddy Segment	AFRP	0%	15,000	-	-		-	-	216,000	-	216,000	
DESIGN												
HDR - Design & ROW	AFRP	4%	25,000	15,690	9,310	175,000	15,690	159,310	369,000	15,690	353,310	
	AFRP			-	-		-	-		-	-	
M&T Design		24%	4,000	3,178	822	13,500	3,178	10,322	13,500	3,178	10,322	
TID share of design cost	Districts	0%		-	-	13,000	-	13,000	13,000	-	13,000	
subtotal		0%	29,000	-	29,000	201,500	-	201,500	395,500	-	395,500	
CONSTRUCTION												
Setback Dike &												
2A Restore Floodplain	AFRP	0%		-	-		-	-	407,000	-	407,000	
Reconstruct Channel												
2B Form	CF-USBR	0%		-	-		-	-	174,000	-	174,000	
Setback Dike &												
2C Restore Floodplain	CF-USBR	0%		-	-		-	-	2,169,000	-	2,169,000	
Setback Dike &												
2D Restore Floodplain	AFRP	0%		-	-		-	-	1,491,000	-	1,491,000	
Revegetation	CF-USBR	0%		-	-	75,000	-	75,000	375,000	-	375,000	
subtotal		0%	-	-	-	75,000	-	75,000	4,616,000	-	4,616,000	
EASEMENTS & ROW												
Appraisals & Agent	AFRP	0%		-	-	22,000	-	22,000	22,000	-	22,000	

Project Title: Mining Reach -- Ruddy Segment

Tuolumne River Restoration Project

Start Date

21-Jan-00

Applicant:

Turlock Irrigation District

Period Ending

30-Sep-00

Contract number: AFRP

1448-113: 9-J025

Contract number: CF- USBR

same

Funding:

Source	AFRP	CF-USBR	Districts	Total	Project	Balance
Amount	1,962,516	3,235,000	75,000	5,272,516	Funding	to be
	-	-	40,000	40,000	Request	Funded
	1,962,516	3,235,000	115,000	5,312,516	6,455,000	1,142,484

Chanage Order #1

Task Description	Funding Source	Percent Complete	Quarterly Budget ending 30-Sep-00			FY 2000 Budget			Total Budget		
			Budget	Qtr. to Date	Balance	Budget	Year to Date	Balance	Budget	Total to Date	Balance
Purchases of ROW	AFRP	0%		-	-		-	-	178,000	-	178,000
Legal Services				-			-				
subtotal		0%	-	-	-	22,000	-	22,000	200,000	-	200,000
PROJECT OVERSIGHT											
HDR Project Mgt	AFRP	0%		-	-	7,000	-	7,000	100,000	-	100,000
HDR Const. Mgt.	CF-USBR	0%		-	-	5,000	-	5,000	277,000	-	277,000
TID Project Mgt.	AFRP	0%		-	-		-	-	62,000	-	62,000
subtotal AFRP		0%	-	-	-	12,000	-	12,000	439,000	-	439,000
CONTINGENCY											
	AFRP	0%	2,000	-	2,000	20,000		20,000	268,000	-	268,000
	CF-USBR	0%		-		8,000		8,000	272,000	-	272,000
TOTALS											
	AFRP	0%	42,000	18,867	23,133	224,000	15,690	208,310	3,145,000	15,690	3,129,310
	CF-USBR	0%	-	-	-	88,000	3,178	84,822	3,235,000	3,178	3,231,822
	Districts	0%	10,000	-	10,000	38,000	-	38,000	115,000	-	115,000
100% Project		0%	52,000	18,867	33,133	350,000	18,867	331,133	6,495,000	18,867	6,476,133

QUARTERLY PROGRAMMATIC REPORT

Program Manager	<u>John Thompson, USFWS</u>	Phone <u>916-414-6713/10</u>
Project Manager	<u>Valerie Calegari</u>	Phone <u>916-683-1703</u>
Agency/Non-Profit:	<u>The Nature Conservancy</u>	
CALFED Directed Action	<u>FWS 114200J039</u>	
Quarter Ending	<u>September 30, 2000</u>	

McCormack-Williamson Tract Wildlife-Friendly Management Project

Overview of Tasks and Status

Task 1

Startup Stewardship

- Manage in environmentally-compatible agriculture
- Cooperate with agencies in Design,
- Development,
- Permitting, and
- Implementation of a long-term restoration plan

Status

The lessee, C&F Farms, is continuing to farm the property under a lease that expires in November 2000. At this point, all of the row crops with the exception of corn have been harvested. TNC is negotiating a new lease with C&F Farms.

TNC continues to coordinate with CALFED, DWR and UC Davis in working through the issues that precede the long-term restoration of the tract to tidal influence, including the role of the tract in the long-term flood solution for the Mokelumne corridor. Other issues include evaluating the potential of methylmercury production in the restored marsh, the dynamics of sediment transport, and the effects of a breach at the lower end on neighboring levees during high flow events. In order to begin to address these questions, DWR has proposed a small-scale restoration effort. Using Special Project funds, DWR through the RD 2110I is undertaking the planning, environmental analyses, design and engineering of a 200-acre tidal restoration effort at the southern tip of the tract. DWR and RD 2110 have signed a work agreement.

TNC continues to participate in CALFED's North Delta Improvements Group. This stakeholder group meets monthly to discuss progress of CALFED's restoration projects within the North Delta (McCormack-Williamson Tract and Georgiana Slough) as well as to hear input

from stakeholders regarding the impact of these projects. A major focus of this group has been to determine feasible solutions to the flooding problems experienced both upstream of the MW Tract, in the Franklin Pond area, as well as downstream, on Staten and Tyler Islands and elsewhere. The North Delta Improvement's group has defined the scope of a programmatic EIR and is currently accepting bids from consultants to carry out the environmental analysis and permitting of numerous projects in the region, including the restoration of the McCormack-Williamson Tract.

Task 2

Wildlife-friendly Levee Project

- Implement an experimental, wildlife-friendly levee project that achieves the following:
 - ❖ Refined design and engineering
 - ❖ Implementation of field tests at several locations
 - ❖ Determining actual costs
 - ❖ Conduct trials of alternative planting strategies
 - ❖ Refine costs
 - ❖ Complete needed levee repairs

Status

On July 21, 2000, Gilbert Cosio of MBK Engineers completed a study describing the existing conditions of the levee, and estimating the quantities of material needed to construct 5,000 feet of interior levee at a 5:1 slope. Working with the tenant farmer and TNC staff, Cosio determined an appropriate borrow site for the material, all of which will come from the tract. The location of the levee back slope work will be on the north levee, between benchmarks 350 and 425. The project is being sent to bid and work should start by the beginning of November.

The cost to excavate and place fill is estimated at \$410,000. It is the intention of the Reclamation District to apply to the Levee Subventions Program to provide some reimbursement for this levee improvement project. The portion of this levee work not covered by the Levee Subventions Program will be paid for through this grant.

The invasive tree removal project is continuing to move forward. Biologists with the California Department of Water Resources and the California Department of Fish and Game have made numerous trips to the site to evaluate the infestation, discuss eradication techniques, and establish a system that will determine habitat credits for this project (in order for a levee project to receive AB 360 Special Project funding, an accounting of habitat credits must be determined). On the suggestion of DWR, TNC initially intended to work with the California

Conservation Corps (CCC), but due to other commitments, the CCC is unavailable. TNC is now working with the Sacramento Local Conservation Corps (SLCC). While the SLCC is also short on crews, they are very excited about the opportunity to work in the Delta environment and to learn a new, much sought-after skill. Executive Director Dwight Washabaugh is working hard to make a crew available to begin work by mid-November. The RD will sign a three-year contract with the CCC that will allow for the complete removal of all exotic trees and the replacement of those trees with native vegetation.

Task 3

Coordination and Outreach

- Establish formal coordination committee
- Formal outreach to public and private stakeholders
- Informal outreach to public and private stakeholders

Status

On October 4, 2000, at CALFED's Science Conference, Valerie Calejari and Keith Whitener presented a poster summarizing the work and research being conducted on the Mc Cormack-Williamson Tract under TNC ownership. TNC staff continues to meet with private stakeholders and seek their input on the long- and short-term plans for the MW Tract. Staff has also spoken at Delta Protection Commission meetings. Informal meetings between UC Davis researchers, the tenant farmer, TNC staff, and DWR staff, are on-going.

TNC continues to inform KCRA, the tenants holding the long-term lease on the television antennae on the MW Tract, of the activities of the RD.

Title McCormack-Williamson Wildlife Friendly Management

Budget year: 30-Sep-00

CALFED Award #: The Nature Conservancy
USFWS 114200J039

Statement Quarter: 30-Sep-00

Total Award Amount \$680,237

Total Project Estimated Completion Date: 30-Nov-02

		PHASE I (Quarterly Budget)				PHASE I (FY '00 Budget)				PHASE I (Three Year Budget)			
		Accrued		Variance	**	Accrued		Remaining		Accrued		Balance to	
		Budget	Expenditures			Budget	Expenditures	Balance	**	Budget	Expenditures	Complete	**
Task 1:	Startup Stewardship	\$ 2,500	\$ 1,833	\$ 667		\$ 12,500	\$ 7,571	\$ 4,929		\$ 224,027	\$ 7,571	\$ 216,456	
Task 3:	Wildlife Friendly Levee Project	\$ 25,000	\$ 20,956	\$ 4,044		\$ 30,000	\$ 26,831	\$ 3,169		\$ 442,992	\$ 26,831	\$ 416,161	
Task 4:	Coordination and Outreach	\$ 2,500	\$ 1,029	\$ 1,471		\$ 12,500	\$ 12,775	\$ (275)		\$ 13,218	\$ 12,775	\$ 443	

Phase I Total:	\$ 30,000	\$ 23,818	\$ 6,182		\$ 55,000	\$ 47,177	\$ 7,823		\$ 680,237	\$ 47,177	\$ 633,060	
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**CALIFORNIA BAY DELTA
ENVIRONMENTAL ENHANCEMENT ACT**

INDIVIDUAL PROJECT PROGRESS REPORT

As of: September 30, 2000

Agency: **U. S. Fish and Wildlife Service**

Proposal/Description: **Nonnative Invasive Species Advisory Council**

Funds Provided: **\$50,000** **100%** of the Total Funds Provided

Funds Obligated: **\$50,000** **100%** of the Total Funds Provided

Funds Expended: **\$2,500.00**

Labor: **\$2,000.00**

Contracts (AE):

Contracts (Const):

Overhead:

Other: **\$500.00**

Physical progress during the quarter/Accomplishments: **Draft Memorandum of Understanding continues to be reviewed by agency representatives. State of California has now hired a state NIS Coordinator, within Department of Fish and Game. SO we will now be able to work with her to further progress on this task. Pressing NIS issues (salvinia and caulerpa) continue to demand a high level of agency representatives time and availability. NIS fact sheets/brochures have been obtained and will be assembled for a NIS Outreach Folder for distribution to CALFED members and stakeholders. Assembled committee to develop process for the Rapid Response Plan.**

Comments:

CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT USBR INDIVIDUAL PROJECT PROGRESS REPORT

As of: September 30, 2000

Contract Number: DCN 11332-0-J007

Agency:

Proposal/Description: Reducing the Risk of Importation and Distribution of Nonindigenous Species

Funds Provided: \$105,463 100 % of the Total Funds Provided

Funds Obligated: \$ _____ % of the Total Funds Provided

Funds Expended: \$2302.47

Labor: \$2,244.19

Contracts (AE): _____

Contracts (Const): _____

Overhead: \$58.28

Other: _____

Physical progress during the quarter/Accomplishments: Hired an outreach assistant on September 11, 2000 and a the first workshop is in development.

Physical 2% Complete

Comments:

An outreach assistant has been hired and we are currently coordinating our first workshop for this fall.

We have received a quote for purchasing a computer to facilitate the assistant's work and to begin website development, develop contact lists, and organize workshop logistics and information.

CALFED Report Format - Example

Project Title: Reducing the Risk of Importation and Distribution of Nonindigenous Species through Education and Outreach										Budget year: 2000			
Applicant: USFWS										Statement Quarter: July-Sept 2000			
Project Number: DCN 11332-0-J007													
Total Estimated Cost of Project: \$105,466										REPORT DATE: 10-Oct-00			
Funding from Federal Bay-Delta Account:													
Funding provided by USBR administered by USFWS:													
Project Schedule:													
Total Project PHASE I										PHASE I			
Estimated Completion Date: June, 2002 (Quarterly Budget)										(FY '00 Budget)			
										Accrued		Remaining	
Budget Expenditures Variance **										Budget Expenditures Balance			
TASK 1 Workshop \$12,076 \$1,151 \$10,925 **										\$18,114 \$1,151 \$16,963			
Schedule:													
TASK 2 Publications \$29,367 0 \$29,367 **										\$32,997 0 \$32,997			
Schedule:													
TASK 3 Video Presentations 0 0 \$0										0 0 \$0			
Schedule													
TASK 4 NIS Website \$6,546 \$1,151 \$5,395 **										\$8,094 \$1,151 \$6,943			
Schedule													
TOTAL Budget \$47,989 \$2,302 \$45,687 \$0										\$59,205 \$2,302 \$56,903			
** Please explain significant variance. Outreach assistant hired on 9/11/00 and project is just beginning.													

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: October 10, 2000

Agency: Department of Water Resources

Proposal/Description: The Zebra Mussel

Detection and Outreach Program

FWS Agreement # 113320J009

Charge code 11332-1981-0055

Funds Provided: \$ 100,000 100

% of the Total Funds Provided

Funds Obligated: \$ 100,000 100 % of the Total Funds Provided

Funds Expended: \$ 0.00

Labor: 0.00

Contracts (AE): 0.00

Contracts (Const): 0.00

Overhead: 0.00

Other: 0.00

Physical progress during the quarter/Accomplishments: The Assistance Agreement for this project has been sent to DWR's Contracts Department. DWR Legal suggested moving this Agreement through the State contracting process prior to signing to help prevent any unforeseen problems that could delay this project further. DWR Legal has signed the Agreement and has forwarded it to DGS Legal (10/3). Once signature is received from DGS Legal and DWR's Contracting Department the Project Manager and the Chief of the Environmental Services Office will be given the Agreement for final review and signature.

Physical 0 % Complete

Comments:

Attachment B

**CALIFORNIA BAY DELTA
ENVIRONMENTAL ENHANCEMENT ACT**

INDIVIDUAL PROJECT PROGRESS REPORT

As of: **October 1st, 2000**

Agency: **California Dept. of Food and Agriculture**

Contact: **Carri Benefield, 916.654.0768, cbenefield@cdfa.ca.gov**

Proposal/Description: **#99-F08, Purple Loosestrife Prevention, Detection, and Control Actions for the Sacramento-San Joaquin River Delta System and Associated Hydrological Units**

Funds Provided: **\$201,306.00** **50 % of the Total Funds Provided**

Funds Obligated: **\$ 201,306.00** **50 % of the Total Funds Provided**

Funds Expended: **\$100,000.00**

Labor: **\$ 58,742.30**

Contracts (AE): **\$ 6,107.70**

Contracts (Const): **\$ 0.00**

Overhead: **\$ 10,850.00**

Materials and Acquisition Costs: **\$ 9,300.00**

Miscellaneous and other Direct Costs: **\$ 15,000.00**

Physical progress during the quarter/Accomplishments:

Task 2- Educational outreach

Educational outreach continues to encompass educational talks and poster presentations to a variety of audiences.

To date, forty presentations have been given at the following meetings/conferences/events, seven talks this quarter:

International Aquatic Weed Conference, San Diego

Sutter/Yuba Weed Management Area, Marysville

CALFED Science Conference, Sacramento

CalEPPC Symposium, Concord

****Deliverables:*** Where available, announcements/abstracts from presentations are enclosed. Copies of most presentation materials were submitted with first quarterly report, (January 2000)

Task 3- Training of professionals

Training of professionals has and will continue to entail a focused education/training with professionals working in throughout the watershed. Training activities include: slide presentation, hands on demonstrations/examples of flora, and field demonstrations/site visits.

Training sessions were given to the following groups this quarter:

Attachment 1

Contra Costa/Alameda Weed Management Area, Dublin
Bear River CRMP Watershed group, Grass Valley
California Fish and Game/US Fish & Wildlife Service, Stockton

***Deliverables:** Where applicable, training announcements are included with this report

Task 5- Map Existing Infestation Sites

This quarter (July-October 2000), infestations in Nevada/Placer, Yolo, Sacramento, San Joaquin, Shasta, Butte, and parts of Sonoma Counties were mapped using a GeoExplorer GPS unit. Mapping will be an ongoing task throughout the course of the project. Our January 2001 report will include maps showing results from all counties.

Task 6- Delta-wide Loosestrife Survey

Delta-wide Loosestrife Survey, surveys conducted this quarter (July-October 2000)

Northern Delta: The northern delta includes waters found north of Hwy 12. In September we were able to survey the Sacramento River from Colusa County (north of Sacramento) to Sacramento. The section from Sacramento to Isleton/Brannon Island had already been surveyed. The Mokelumne River, from New Hope Landing to just south of Lodi was also surveyed. Sections of the north fork and south forks of the Mokelumne River around Staten Island were also surveyed. No purple loosestrife was found.

*Maps will be included with January 2001 quarterly report.

Central Delta: The entire central delta was surveyed in August. The area encompassed all waters south of Hwy 12 and north of Hwy 4. Five crews split this large area up into sections and over the course of two solid weeks completed the survey. Purple loosestrife was found in:

White Slough- Know site. It was determined that the area is fairly well contained into the back of White Slough and a few Islands in the eastern part of the slough. Eradication seems very possible at this point.

Ryer Island- NEW infestation. Only two plants were found on and around Ryer island. Eradication is very possible.

Calaveras River- NEW infestation. Several plants were found at the confluence of the Calaveras River with the Port of Stockton. A boat was taken as far as conditions permitted---up to the center of the University of the Pacific Campus; a survey further up (east) was conducted from the adjacent bike path. Further survey will be needed to assess extent of upstream infestation.

*Maps will be included with January 2001 quarterly report.

South Delta: The southern delta includes waters found south of Hwy 4. The San Joaquin River was surveyed as far South as the Merced County line. The Old and Middle Rivers were surveyed in their entirety. Several new infestations were found in the southern Delta.

Old/Middle Rivers- NEW infestation. A moderately sized infestation was found in the Old and Middle Rivers. The extent of the spread was assessed. Eradication seems very possible at this point.

Tuolumne River- NEW infestation. The Tuolumne River is infested from just below Don Pedro Reservoir to where it drains into the San Joaquin River. With cooperation, persistence and ample resources, treatment seems feasible.

San Joaquin River- NEW infestation. Seeds from the Old, Middle, and Tuolumne Counties seem to be carrying over to the main San Joaquin River. Eradication seems very possible at this point.

*Maps will be included with January 2001 quarterly report.

Task 7- Contiguous Basin Survey

Areas surveyed to date:

Contiguous Basin Survey, Areas surveyed to date:

Yolo County: The week of July 10th-14th was spent in *Yolo County* conducting canoe, foot, truck, and aerial surveys. The extent of the infestation was determined. New plants/sites were found. The source of the infestation was also found. The aerial survey was very helpful in determining boundaries of the infestation.

*Maps will be included with January 2001 quarterly report.

Nevada/Placer Counties: The week of July 17-21 was spent in *Nevada and Placer Counties* conducting foot,

Attachment 1

truck, and aerial surveys. The extent of the infestation was determined. New plants/sites were found. The aerial survey was very helpful in determining boundaries of the infestation along the Bear River.

*Maps will be included with January 2001 quarterly report.

Shasta County: The weeks of July 31st-August 9th were spent in *Shasta County* conducting boat, foot, and truck surveys. The extent of the infestation was assessed. Experimental treatment plots were put out to evaluate the efficacy. New plants/sites were found. Shasta County has one of the largest infestations of the State. Cooperation in developing a management plan will be critical to determining a successful management strategy.

*Maps will be included with January 2001 quarterly report.

Butte County: The weeks of August 10th-August 18th were spent in *Butte County* conducting boat, foot, truck, and aerial surveys. The extent of the infestation was assessed. New plants/sites were found from several cooperators in the County Weed Management Area Group. Butte County has one of the largest infestations of the State. Serious thought will be needed by all cooperators in developing a management plan for this regional infestation.

*Maps will be included with January 2001 quarterly report.

Parts of Sonoma County: The week of September 11th was spent conducting surveys in known nursery sites and roadside sites. No new infestations were found.

*Maps will be included with January 2001 quarterly report.

Physical 50% complete

***Comments:** none.

[illegible]

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: October 5, 2000

Contract Number: 11332-0-J001

Agency: Coastal Conservancy

Proposal/Description: The Introduced Spartina Eradication Project (ISEP) is a regionally coordinated program with the primary objective of eradicating introduced Spartina species from the wetlands and intertidal mud flats of the San Francisco Bay Estuary. The project is funded by the Calfed Ecosystem Restoration Program and administered by the California State Coastal Conservancy

Funds Provided: \$250,000	<u>7</u> % of the 'Total Funds Provided' has been paid to the Coastal Conservancy thus far.
Funds Obligated: \$250,000	<u>7</u> % of the Total Funds Provided

*Funds Expended:

Labor:	<u>\$21,650</u>
**Contracts (AE):	<u>\$1,030</u>
Contracts (Const):	<u>0</u>
Overhead:	<u>\$2,845</u>
Other:	<u>0</u>

*The funds expended are for Project Administration and Public Outreach

**Five subcontracts have been entered into as follows:

- San Francisco Estuary Institute for \$49,100. CALFED's portion of that contract is \$29,000;
- Project Coordinator for \$80,217. CALFED's portion of that contract is \$3,250;
- Field Coordinator for \$52,683. CALFED's portion of that contract is \$4,000.
- The Regents of the University of California for \$32,000. CALFED's portion is \$29,000 (This is an interagency agreement.); and
- Science Applications International Corporation for \$200,000. CALFED's portion is \$25,000.

One interagency agreement with United States Department of Agricultural is still under negotiation:

- USDA for \$25,000. CALFED's portion of that agreement is \$22,750.

See attached narrative for accomplishments to date.

See spread sheet form for physical % complete for individual tasks and subtasks.

**CALFED Quarterly Report
January - September 2000
Introduced Spartina Eradication Project**

Project Title:	Introduced Spartina Eradication Project									Budget year:2000	
Applicant:	USFWS									Statement Quarter July - Oct. 5, '00	
Project Number:	11332-0-J001										
Total Estimated Cost of Project:	\$860,000									REPORT Date Oct. 5, '00	
Project Schedule:	Feb 28,2000 - February 28, 2001										
Total Project				PHASE I			PHASE 1			PHASE I	
Estimated Completion Date:	February 28, 2001			(Quarterly Budget)			(Combined Quarterly Budget)			FY 2000-Mar.'01	
				July-Sept '00			Jan-Sept '00				
				Budget	Accrued	Variance	Budget	Accrued	Balance	Budget	Accrued
				Expenditures			Expenditures			Expenditures	Remaining
TASK 1	Project Administration										
Schedule:	Nov 99-Feb 01										
Percent Work Complete for Task 1:	95%		5387	2916	2471	16161	20506	-4345	21550	\$20,506	1043
TASK 2	Project Management		0	0	0				0	0	0
Schedule	Oct.99-Dec.00										
Percent Work Complete for Task 2:											
2.1	Establish regionally coordinated structure	42%	0	0	0				0	0	0
2.2	Identify, notify, assist landowners	80%	0	0	0				0	0	0
2.3	ISEP Management & Impl. Report	15%	0	0	0				0	0	0
2.4	Identify operations needs	20%	0	0	0				0	0	0
2.5	Survey North Bay for outlying populations	80%	0	0	0				0	0	0
2.6	Annual ISEP Status Report	5%	0	0	0				0	0	0
2.7	Develop Rapid Response Protocol/team	5%	0	0	0				0	0	0
2.8	Convene Advisory Panel		0	0	0				0	0	0
2.9	Assist landowners with control operat.	65%	0	0	0				0	0	0
TASK 3	Operations								120450	0	120,450
Schedule	Feb 00 -Feb 01										
Percent Work Complete for Task 3:											
3.2	Equip. Specs.			0			0		1000	0	1000
3.3	Purchase Equip.			0			0		10450	0	10450
3.4	Control N. Bay Populations			0			0		30000	0	30000
3.5	Control Target Populations			0			0		71000	0	71000
3.6	Equip. Rental			0			0		4000	0	4000
3.7	Equip. Maintenance			0			0		0	0	0
3.1	Genetic Testing	75%		0		4000	0	4000	4000	0	4000

**CALFED Quarterly Report
January - September 2000
Introduced Spartina Eradication Project**

Project Title:	Introduced Spartina Eradication Project										Budget year:2000	
Applicant:	USFWS										Statement quarter	July-Sept. '00
Project Number:	11332-0-J001											
Total Estimated Cost of Project:	\$860,000										REPORT DATE:	Oct. 5, 2000
Project Schedule:	February 28, 2000- February 28, 2001											
				Phase I				Phase I			Phase I	
				(Quarterly Budget)				(Combined Quarterly Budget)			FY 2000	
TASK 4	Public Outreach			July-Sept '00				Jan-Sept '00				
Schedule	Feb 00- Dec 01				Accrued			Accrued			Accrued	Remaining
Percent work completed for Task 4:				Budget	Expenditures	Variance	Budget	Expenditures	Balance	Budget	Expenditures	Balance
	Public Outreach Totals			\$6,000		\$4,856	\$4,856		4,856	\$14,250		\$13,106
	4.1 Outreach Plan	5%			0			1144		1500	\$0	356
	4.2 Initial Web Site Development				0			0		8000	\$0	8000
	4.3 Spartina Alert				0			0		500	\$0	500
	4.4 Slide Presentation	25%			0			0		250	\$0	250
	4.5 Brochures	100%			1030			1030		4000	\$1,030	2970
TASK 5	Environmental Compliance											25000
Schedule	Jan. '00-June '01											
Percent work completed for Task 5:												
	5.1 Permits and Reg. Requirements Report	100%		0	0	0	0	0	0	0	0	0
	5.2 California Clapper Rail Surveys	5%		0	0	0	0	0	0	0	0	0
	5.3 Programmatic EIR/EIS	1%		0	0	0	0	0	0	25000	\$0	25000
TASK 6												
Schedule	Mapping/Monitoring			9000	0	9000	18000	0	18000	21000	\$0	21000
Percent work completed for Task 6:	Jan.00-Mar.01											
	6.1 Map target populations	15%			0	0		0	0	3,000	0	3000
	6.2 ISEP Monitoring Protocol				0	0		0	0	8,000	0	8000
	6.3 Phase 1 aerial photography	100%			0	0		0	0	10000	0	10000
TASK 7												
Schedule	Research			8716	0	8716	34482	0	34482	47750		47750
	Jan.00-Mar.01											
Percent work completed for Task 7:												
	7.1 Hybrid Research	72%			0			0		25000	0	25000
	7.2 Control Efficacy	1%			0			0		22750	0	22750
TOTAL BUDGET										250000	0	228464

**CALIFORNIA BAY DELTA ENVIRONMENTAL ENHANCEMENT ACT
USBR INDIVIDUAL PROJECT PROGRESS REPORT**

As of: September 5, 2000

Agency: San Francisco State University

Proposal/Description: Effects of Introduced Clams on the Food Supply of

Bay-Delta Fish Species

Funds

Provided: \$ 100,490

Funds Obligated: \$ 0 0 % of the Total Funds Provided

Funds Expended: \$ 0 0 % of the Total Funds Provided

Labor:

Contracts (AE):

Contracts (Const):

Overhead:

Other:

Physical progress during the quarter/Accomplishments: I have begun analyzing data on plankton and fish abundance and changes that occurred after introduction of Potamocorbula. This analysis will bring up to date the available information on the response of the estuarine foodweb.

Physical 5 % Complete

Comments: Having received my University account number for this project only 2 weeks ago, I have not yet made any expenditures on this project; however, I have gone ahead with some of the data analysis

Attachment B

QUARTERLY PROGRAMMATIC REPORT

Program Manager: Spencer Shepherd, phone: (415) 778-0999, email: shepherd@nfwf.org
Project Manager: Joseph J. Cech, Jr., phone: (530) 752-3103, email: jjcech@ucdavis.edu
CALFED Project #: 99-N02
Quarter Ending: September 30, 2000

Deliverables

This quarterly report covers the period from July 1, 2000 - September 30, 2000 (3 months).

<u>Deliverable</u>	<u>Due Date</u>	<u>% Completed</u>	<u>Date Deliverable Complete</u>
Task 1 (Report on operation, maintenance, and calibration of the Fish Treadmill)	June 30, 2001	55%	
Task 2 (Report on biological experiments using the Fish Treadmill)	June 30, 2001	55%	
Task 3 (Report on fish collection)	June 30, 2001	55%	
Task 4 (Draft Biological Monitoring/Research Plan)	February 16, 2000	100%	April 10, 2000
Task 5 (Quarterly fiscal and programmatic reports)	June 30, 2001	60%	
Task 6 (Final technical reports)	May 30, 2001	0%	

Narrative

Task 1: Fish Treadmill operation, maintenance, and calibration (M. L. Kavvas, Department of Civil and Environmental Engineering, UC Davis, Task Leader)

The Fish Treadmill was operated for 43 experiments during the period from July 1-September, 2000. No experiments were conducted between August 8-23, 2000, because of shortages of experimental fishes (see Task 2 below). All Fish Treadmill variables (e.g., Fish Treadmill water temperature and dissolved oxygen) were within acceptable ranges (as defined by the Biological Monitoring/Research Plan, BM/RP) but, for seven of the experiments conducted, at least one other QAQC criterion was unacceptable (e.g., presence of a non-target species among experimental fish, see Task 2 below). Fish Treadmill hydraulics and water quality data were checked and reported in monthly QAQC reports to the QAQC officer. No errors in the recorded data sheets were found. Data on discharge water (quality and quantity) were measured and reported to the California Regional

Water Resource Control Board (CRWRCB).

Fish Treadmill maintenance performed during this quarter included regular maintenance for the heating/cooling system and repair of the rubber seal on the Fish Treadmill outer rotating screen.

Task 2: Biological Experiments (J. J. Cech, Jr., Department of Wildlife, Fish, and Conservation Biology, UC Davis, Task Leader)

During this quarter, 43 biological experiments were conducted (chinook salmon, 6-8 cm SL, 11 experiments; green sturgeon, 4-6 cm SL, 7 experiments, and 6-8 cm SL, 4 experiments; American shad, 4-6 cm SL, 17 experiments, and 6-8 cm SL, 2 experiments; and delta smelt, 6-8 cm SL, 2 experiments). For three of these experiments, at least one QAQC parameter (as defined by the BM/RP) was unacceptable (e.g., inadvertent inclusion of a threadfin shad in two experiments with American shad, discovered during the post-experiment health assessment), requiring that results from those experiments be excluded from our datasets. In four other experiments, minor QAQC errors necessitated the removal some selected data (e.g., a time sensitive blood sample) from final datasets. Eight scheduled experiments were cancelled or postponed due to unacceptable pre-experiment conditions (5 experiments), malfunction of the Fish Treadmill (2 experiments), or staff shortage (1 experiment). Experiments with small size class fish (4-6 cm SL) were conducted during both the day (12 experiments) and night (12 experiments). Experiments using 6-8 cm SL fish were also used for physiological stress response measurements. Plasma samples from American shad and delta smelt were analyzed for plasma cortisol concentrations. Plasma samples from experiments with green sturgeon were frozen and scheduled for later analysis. Biological experiments using the Fish Treadmill were suspended from August 8-23 because of shortages of experimental fishes that had completed prophylactic treatments required by the BM/RP. All experiments were conducted at 19EC.

Data entry, computer-assisted motion analyses of video tape records, and statistical analyses continued for experiments conducted earlier this year and during the previous years. Results for delta smelt, splittail, and chinook salmon were updated based on recently completed experiments with each species and re-analyzed. Fish Treadmill Project results for these three species were presented at the International Congress on the Biology of Fishes (three papers in the Fish Migration and Passage Symposium, July 24-27, 2000, Aberdeen, Scotland). Further updated results for delta smelt were presented to the Central Valley Fish Facilities Review and Development Teams (August 31, 2000, Stockton CA) in a special meeting on delta smelt biology and protection issues.

Revision of the 1999 Annual Report on Fish Treadmill studies supported by the California Department of Water Resources (DWR) was completed and the report was released (report available through DWR). A manuscript describing Fish Treadmill results for chinook salmon is in preparation for anticipated submission to the Journal of Experimental Biology.

Task 3: Fish Collection (G. Aasen, California Department of Fish and Game, Stockton Bay/Delta Office, Task Leader)

During this quarter, we collected more than 2000 juvenile American shad from the Skinner Fish Protective Facility (Byron, CA) and 88 adult delta smelt from the Tracy Fish Facility (Tracy, CA). As required by the BM/RP, these fish were subjected to prophylactic treatments for 10 days and held for another 10 days before being used for biological experiments.

Task 4: Biological Monitoring/Research Plan (J. J. Cech, Jr., Department of Wildlife, Fish, and Conservation Biology, UC Davis, Task Leader)

This task was completed during the second quarter.

Task 5: Quarterly reports (J. J. Cech, Jr., Department of Wildlife, Fish, and Conservation Biology, and M. L. Kavvas, Department of Civil and Environmental Engineering, UC Davis, Task Leaders)

This is the third quarterly report. It covers the period of July 1, 2000 - September 30, 2000 (3 months).

Task 6: Final technical reports (J. J. Cech, Jr., Department of Wildlife, Fish, and Conservation Biology, and M. L. Kavvas, Department of Civil and Environmental Engineering, UC Davis, Task Leaders)

Final technical reports for the hydraulic and biological studies using the Fish Treadmill will be submitted May 30, 2001.

Projected Expenses for the Next Three Months:

The estimated costs for next three months (October 1, 2000 - December 31, 2000) are \$258,965.

This figure is based on projected costs for Task 1,2, and 5 for 3 months (total = \$145,780) and for 10.5 months of Task 3 (Fish Collection, California Department of Fish and Game).

Summary of expenses this quarter (July 1, 2000 - September 30, 2000) and to date (first 7.5 months of project).

Task	Quarter Budget	Quarter Expenditures	Quarter Variance	Project budget	Project expenditures	Balance	Explanation
Task 1	60,738	60,738	0	276,082	151,845	124,237	3 rd quarter
Task 2	82,530	82,530	0	371,384	205,575	165,809	3 rd quarter
Task 3	0	0	0	145,520	0	145,520	funds late
Task 4	0	0	0	4,898	4,898	0	completed
Task 5	2,512	2,512	0	12,558	7,534	5,023	3 rd of 5 completed
Task 6	0	0	0	12,558	0	12,558	N/A

QUARTERLY PROGRAMMATIC REPORT

Program Manager Spencer Shepherd Phone 415-778-0999 x 24
Project Manager Eliska Rejmánková Phone 530-752-5433 erejmankova@ucdavis.edu
Dept. of Environmental Science & Policy
University of California, Davis
One Shields Avenue
Davis, CA 95616

CALFED Project # 99-N05
Reintroduction of Soft Bird's Beak to Restored Habitat in Suisun Marsh
Quarter Ending September 30, 2000

Deliverables in Progress July – Sept. 2000 Quarter

(See July 2000 Quarterly Report for all Phase I Deliverables/Complete June 30, 2000)

PHASE II	Name of Deliverable	Due Date	% Work Complete	Date Deliverable complete
Task II.1 Project Management	Qtr. Fiscal Report, Programmatic Report, and Phase I Progress Report	Oct.10, 2000	100	Sept. 30, 2000
Task II.2 Field Data Collection, Lab Analyses, Data Evaluation	Photos of experimental reintroduction plots & field techniques; summary of samples, demographic and other experimental data collected, and analyses performed.	Dec. 31, 2001	30%	(In Progress)
Task II.3 Interpretive Display	Photograph and description of interpretive display	Dec. 31, 2001	0	(Future Task)
Task II.4 Monitoring Plan and Oral Presentations	Draft/Final Monitoring Plan, List of Meetings Attended, Summary Monitor Training and Presentations Delivered	Dec. 31, 2001	0	(Future Task)

Narrative: CALFED 99-NO5 QUARTERLY PROGRAMMATIC REPORT
Reintroduction of Soft Bird's Beak to Restored Habitat in Suisun Marsh

Introduction. The goal of this study is to provide critical ecological data to facilitate rare plant restoration, as a contribution towards CALFED objectives for improved ecosystem quality through native species recovery and conservation. The recovery of rare plants often requires the creation of new populations in order to decrease extinction risk. This project addresses recovery of soft bird's beak (*Cordylanthus mollis* ssp. *mollis*), an endangered plant endemic to Suisun and North Bay high tidal marsh. Soft bird's beak is an annual hemiroot parasitic herb of the figwort/snapdragon family. Natural populations of soft bird's beak have been confirmed from nine sites in Suisun and North Bay marshes, and well over 90% of the remaining plants are found in Suisun Marsh (Ruygt 1994). Historic accounts indicate this species is an anthropogenic rarity that is now endangered due to habitat loss and fragmentation (U.S. Fish & Wildlife Service 1995). Understanding habitat requirements critical to this species will aid in the recovery of soft bird's beak and other sensitive species sharing historic tidal marsh habitat.

DESCRIPTION OF ACTIVITIES PERFORMED DURING THE QUARTER, BY TASK

Task II.1. Project Management.

Project management activities included coordination with the Department of Fish and Game and California State Parks for work on property in Suisun, Benicia, and Napa Marsh.

A Ph.D. Candidate (student post-graduate researcher), B.S./Level 1 post-graduate researcher (non-student), laboratory technician, and an undergraduate field/lab assistants were supervised to implement Phase II of the project. A second undergraduate field assistant was hired to help finish late season field work in the month of September. The quarterly financial and programmatic reports were prepared under the direction of the project manager. All project management activities were provided through cost share arrangement with no charge to the CALFED contract.

Task II.2 Field Data Collection, , Lab Analyses, Data Evaluation.

Propagules were collected from local natural populations for the reintroduction experiment. These propagules were air-dried, cleaned and held in cold storage in the laboratory.

A reintroduction experiment was established at Rush Ranch in early spring 2000 prior to emergence of *Cordylanthus mollis* at natural population sites. A split plot design was arranged in randomized blocks, with 5 restoration planting techniques and 2 levels of canopy management. Treatments were randomized within blocks, and one meter buffers were established. Each block was replicated 10 times. Seed lots of 300/square meter per experimental treatment were prepared. Seed was brought to room temperature, subjected to a freshwater treatment, and transported to the field for planting. Early spring, mid-spring, and late spring seeding treatments with clipped and unclipped vegetation were established. Plots designated for fall/winter seeding treatments were also established. Additional propagules were collected, processed, counted, and

stored for fall seeding. Seed collection, processing, and treatment establishment will continue into the next quarter.

Experimental plots were established in the natural reference population at Hill Slough Wildlife Area for comparative demographic monitoring. As no spring seeded plants emerged, comparative demographic monitoring has not been initiated. It is anticipated that comparative demographic monitoring will commence in early spring 2000 following the late fall/winter planting. Technical experts to this project, and the project managers expect fall/winter seeding to be the best strategy. However, technical experts agreed that it was important to include spring seeding treatments in the experimental design.

Data on biological and physical conditions of natural populations of soft bird's beak and the reintroduction site were collected. Technical experts/advisors to this project from the Department of Fish and Game (DFG), U.S. Fish and Wildlife Service (USFWS), and local universities were consulted for input on the most important data needs relative to restoration of this rare plant. DFG and USFWS suggested we conduct detailed population census of natural soft bird's beak populations at Hill Slough Wildlife Management Area, Rush Ranch, Joice Island, Beldon's Landing, Fagan Slough Ecological Reserve (Napa Marsh), and Southampton Marsh. These data will be analyzed and compared to detailed census work that was completed for the DFG in 1993 under very different hydrologic conditions. We will continue to work on this census, and should complete the field portion of the work in October 2000. A comparative analysis of population size, habitat conditions, and hydrologic conditions is planned. GPS co-ordinates were obtained during the population counts for submittal to DFG as a condition of our rare plant research permit for this project.

Biological data were collected on both beneficial insects and the natural enemies of soft bird's beak. Detailed observational data on pollinators and seed predators within natural populations of this rare plant were collected. A larval stage of a lepidopteran seed predator significantly reduces the amount of soft bird's beak entering the seed bank. We consulted with DFG and USFWS experts who encouraged us to implement an experiment to evaluate possible management actions to enhance the amount of seed entering the seed bank during a reintroduction attempt. An experiment was established to determine if the organic pesticide, *Bacillus thuringiensis*, could be useful as a restoration tool. Establishment of a viable seed bank is essential for the successful restoration of seedbank annual plants such as soft bird's beak. *Bacillus thuringiensis* (commonly used by organic farmers) is approved for use in tidal marshes, and is routinely applied by mosquito abatement personnel. The formulation used in our experiment is specific to butterfly/moth larvae. We established an 93 experimental units including equal numbers of spray, vertebrate predator exclosure, and control treatments. Treatments were sprayed weekly and predator observations were recorded. Evaluation will continue in the next quarter.

Tasks II.3 and II.4 will be future project activities that were not planned for this quarter.

II. PROBLEMS AND DELAYS ENCOUNTERED BY TASK

There are no problems or delays to report.

III. PROJECTED EXPENSES for each of the next three months in the following quarter to assist in the timing of State bond sales which fund this project.

Month 1 \$ 10,344 Month 2 \$ 5,640 Month 3 \$ 5,830 Total for quarter \$ 21,814

QUARTERLY PROGRAMMATIC REPORT

Program Manager Spencer Shepherd Phone 415-778-0999 x 24
Project Manager Carri Benefield
CALFED Project # 99-N11
Quarter Ending October 1, 2000

Deliverables

	Name of Deliverable	Due Date	% Work Complete	Date Deliverable complete
Task 15	Education Outreach	Continuous throughout Project	95%	ongoing...
Task 16	Training of Professionals	Continuous throughout Project	95%	ongoing...
Task 17	GPS of existing sites	January each year	95%	January 2003
Task 18	Butte, Shasta, Upper River Survey	January 2000-2003	95%	January 2003
Task 19	Update GIS	January 2000-2003	90%	January 2003
Task 20	Assessment	April 2001, 2002	0%	April 2002
Task 21	Produce Adaptive Mgt plan	April 2001, 2002	0%	April 2002 (plan revised)
Task 22	Environmental consultation and planning	Following assessment meetings	30%	April or July 2002
Task 23	Implement Controls	Fall/Jan. 2001, 2002, 2003	5%	January 2003
Task 24	Monitor loosestrife density/control success	January 2001,2002	0%	January 2003
Task 25	Monitor water	Summer 2001, 2002	0%	Summer 2002

Narrative

Description of activities performed during the quarter, by task:

Education Outreach (TASK 15)

Educational outreach continues to encompass educational talks and poster presentations to a variety of audiences.

To date, forty presentations have been given at the following meetings/conferences/events, seven talks this quarter:

International Aquatic Weed Conference, San Diego
Sutter/Yuba Weed Management Area, Marysville

CALFED Science Conference, Sacramento
CalEPPC Symposium, Concord

***Deliverables:** Where available, announcements/abstracts from presentations are enclosed.
Copies of most presentation materials were submitted with first quarterly report, (January 2000)

Training of Professionals (TASK 16)

Training of professionals has and will continue to entail a focused education/training with professionals working in throughout the watershed. Training activities include: slide presentation, hands on demonstrations/examples of flora, and field demonstrations/site visits.

Training sessions were given to the following groups this quarter:

Contra Costa/Alameda Weed Management Area, Dublin
Bear River CRMP Watershed group, Grass Valley
California Fish and Game/US Fish & Wildlife Service, Stockton

***Deliverables:** Where applicable, training announcements are included with this report

GPS/Survey (TASKS 17-18)

Delta-wide Loosestrife Survey, surveys conducted this quarter (July-October 2000)

Northern Delta: The northern delta includes waters found north of Hwy 12. In September we were able to survey the Sacramento River from Colusa County (north of Sacramento) to Sacramento. The section from Sacramento to Isleton/Brannon Island had already been surveyed. The Mokelumne River, from New Hope Landing to just south of Lodi was also surveyed. Sections of the north fork and south forks of the Mokelumne River around Staten Island were also surveyed. No purple loosestrife was found.

*Maps will be included with January 2001 quarterly report.

Central Delta: The entire central delta was surveyed in August. The area encompassed all waters south of Hwy 12 and north of Hwy 4. Five crews split this large area up into sections and over the course of two solid weeks completed the survey. Purple loosestrife was found in:

White Slough- Known site. It was determined that the area is fairly well contained into the back of White Slough and a few Islands in the eastern part of the slough. Eradication seems very possible at this point.

Ryer Island- NEW infestation. Only two plants were found on and around Ryer island. Eradication is very possible.

Calaveras River- NEW infestation. Several plants were found at the confluence of the Calaveras River with the Port of Stockton. A boat was taken as far as conditions permitted---up to the center of the University of the Pacific Campus; a survey further up (east) was conducted from the adjacent bike path. Further survey will be needed to assess extent of upstream infestation.

*Maps will be included with January 2001 quarterly report.

South Delta: The southern delta includes waters found south of Hwy 4. The San Joaquin River was surveyed as far South as the Merced County line. The Old and Middle Rivers were surveyed in their entirety. Several new infestations were found in the southern Delta.

Old/Middle Rivers- NEW infestation. A moderately sized infestation was found in the Old and Middle Rivers. The extent of the spread was assessed. Eradication seems very possible at this point.

Tuolumne River- NEW infestation. The Tuolumne River is infested from just below Don Pedro Reservoir to where it drains into the San Joaquin River. With cooperation, persistence and ample resources, treatment seems feasible.

San Joaquin River- NEW infestation. Seeds from the Old, Middle, and Tuolumne Counties seem to be carrying over to the main San Joaquin River. Eradication seems very possible at this point.

*Maps will be included with January 2001 quarterly report.

Contiguous Basin Survey, *Areas surveyed to date:*

Yolo County: The week of July 10th-14th was spent in *Yolo County* conducting canoe, foot, truck, and aerial surveys. The extent of the infestation was determined. New plants/sites were found. The source of the infestation was also found. The aerial survey was very helpful in determining boundaries of the infestation.

*Maps will be included with January 2001 quarterly report.

Nevada/Placer Counties: The week of July 17-21 was spent in *Nevada and Placer Counties* conducting foot, truck, and aerial surveys. The extent of the infestation was determined. New plants/sites were found. The aerial survey was very helpful in determining boundaries of the infestation along the Bear River.

*Maps will be included with January 2001 quarterly report.

Shasta County: The weeks of July 31st-August 9th were spent in *Shasta County* conducting boat, foot, and truck surveys. The extent of the infestation was assessed. Experimental treatment plots were put out to evaluate the efficacy. New plants/sites were found. Shasta County has one of the largest infestations of the State. Cooperation in developing a management plan will be critical to determining a successful management strategy.

*Maps will be included with January 2001 quarterly report.

Butte County: The weeks of August 10th-August 18th were spent in *Butte County* conducting boat, foot, truck, and aerial surveys. The extent of the infestation was assessed. New plants/sites were found from several cooperators in the County Weed Management Area Group. Butte County has one of the largest infestations of the State. Serious thought will be needed by all cooperators in developing a management plan for this regional infestation.

*Maps will be included with January 2001 quarterly report.

Parts of Sonoma County: The week of September 11th was spent conducting surveys in known nursery sites and roadside sites. No new infestations were found.

*Maps will be included with January 2001 quarterly report.

Mapping (TASK 19)

Map Existing Infestation Sites

This quarter (July-October 2000), infestations in Nevada/Placer, Yolo, Sacramento, San Joaquin, Shasta, Butte, and parts of Sonoma Counties were mapped using a GeoExplorer GPS unit. Mapping will be an ongoing task throughout the course of the project. Our January 2001 report will include maps showing results from all counties.

Problems and delays encountered by task. NONE

Other issues or comments. NONE

Please identify your projected expenses for each of the next three months in the following quarter to assist in the timing of State bond sales which fund this project.

Month 1 \$ 3,000 Month 2 \$ 1,000 Month 3 \$ 3,000 Total for quarter \$ 7,000

NFWF Quarterly Fiscal Report-October 2000									
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Title: Purple Loosestrife Prevention, Detection, and Control Actions for the Sacramento-San Joaquin River Delta System and Associated Hydrological Units			Budget year:	2000	
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Budget year: 2000

Statement Quarter:	4
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[illegible]

Phase I Total:				\$7,797	\$7,797	\$0		\$51,702	\$51,702	\$0		\$127,473	\$51,702	\$75,771	
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Quarterly Programmatic Report

Program Manager: Cheryl Lovato Niles/
Gillian Harris

Phone: (415)
778-0999

Project Manager: Amy Augustine
 CALFED Project#: 99N-15
 Quarter Ending: September 30, 2000

Phone: (209) 532-7376

DELIVERABLES

	Name of Deliverable	Due Date	% of Work Complete	Date Deliverable Complete
TASK 1 - WATERSHED STEWARDSHIP PLAN (LMSP)				
Task 1.1 Program Coordination				
Deliverables	Monthly Invoices	Monthly	15%	July 18,2000 July 28,2000 Aug. 16, 2000 Spt. 18,2000
	Quarterly Reports	10/10/00, 1/10/00, 4/10/01, 7/10/01, 10/10/01, 1/10/02, 4/10/02	15%	10/9/00 (Attached)
	Copies of Subcontracts	7/10/00	50%	Pending
	Final Report	2/28/00	0%	Pending
Task 1.2 Collect Background Information				
Deliverables	Background Discussions w/ Draft LMSP Elements	10/10/00, 1/10/01, 4/10/01, 7/10/01, 10/10/01	30%/a/	Attached: Draft Education, Recreation and Cultural Resources Elements AND Model Watershed Owner's Manual
	Final Map of Watershed Boundaries	1/10/01	50%	Pending

	Name of Deliverable	Due Date	% of Work Complete	Date Deliverable Complete
Task 1.3 Prepare LMSP Watershed Owner's Manual w/ Action Plan				
Subtask 1.3.1	Outlines of Draft LMSP Elements	10/10/00, 1/10/01, 4/10/01, 7/10/01, 10/10/01	30%/a/	Attached: Draft Education, Recreation and Cultural Resources Elements AND Model Watershed Owner's Manual
	LMSP Steering Committee Agendas, Minutes, Sign-in Sheets	7/10/00, 10/10/00, 1/10/01, 4/10/01, 7/10/01, 10/10/01, 1/10/02, 4/10/02	15%	10/9/00 Attached for May, June, July, August, and Spt. Meetings
Subtask 1.3.2	Draft LMSP	10/10/01	20%	Pending
Subtask 1.3.3	Fliers - Draft LMSP Workshop #1	10/10/01	0%	Pending
	Fliers - Draft LMSP Workshop #2	1/10/02	0%	Pending
Subtask 1.3.4	Sign-in Sheets- Draft LMSP Workshop #1	1/10/02	0%	Pending
	Sign-in Sheets- Draft LMSP Workshop #2	1/10/02	0%	Pending
Subtask 1.3.5	Final LMSP	4/20/01	15%	Pending
TASK 1.4 Monitoring and Evaluation				
Deliverables	Watershed Survey	1/10/01	0%	Pending
	Program Monitoring and Evaluation Report	5/31/02	0%	Pending
Task 1.5 Implement Initial LMSP Actions				

	Name of Deliverable	Due Date	% of Work Complete	Date Deliverable Complete
Deliverables	List of Potential Funding Sources and Cost-Sharing Partners	1/10/01	10%	10/9/00 Potential funding sources identified in some draft elements
	Copy of Grant Application to Fund Specific LMSP Program	4/10/02	0%	Pending
TASK 1.6 - Continue Gathering Community Input				
Deliverables	Watershed Survey	1/10/01	0%	Pending
	Results of Watershed Survey	4/10/01	0%	Pending
	Copies of fliers of events attended by RCD Staff to promote LMSP	10/10/00, 4/10/01, 10/10/01, 4/10/02	15%	Pending
	Copies of newspaper and/or newsletter articles promoting LMSP effort	10/10/00, 4/10/01, 10/10/01, 4/10/02	0%	Pending
Task 1.7 Mini-Watershed Tours				
Deliverables	Sign-in Sheet from Watershed Tours	10/10/01		10/9/00 See Attached Narrative

/a/ Delivery of approximately two elements per date noted.

NARRATIVE

1. Description of Activities performed during the quarter, by task.

Steering Committee Meetings: During the first quarter of the program, the Lower Mokelumne River Watershed Stewardship Plan (LMSP) Steering Committee met five times: 5/5/00, 6/2/00, 7/7/00, 8/4/00, and 9/8/00. (See attached agendas for each meeting and attached sign-in sheets. NOTE: Agendas include minutes of the preceding meetings). During these meetings, the LMSP Steering Committee elected a chair and vice-chair, drafted three LMSP elements (Education, Recreation and Cultural Resources), began preparation of a video tour of the watershed, and attended two watershed flyovers.

Draft Elements: The LMSP Steering Committee has drafted the Education, Recreation and Cultural Resources Elements of the LMSP (See enclosed draft elements). The elements include background discussions, goals, implementation programs and, ultimately, will identify funding sources, time lines for completion and responsible parties for all programs. To date, the LMSP Steering Committee has completed numerous drafts of the Education Element and finds that the element is nearly ready for public review. Additional review is pending on the Recreation and Cultural Resources Elements. In upcoming quarters, the LMSP Steering Committee will be tackling the following elements: Wildlife/Habitat, Agricultural, Flood/Erosion, Water Quality and Economic elements.

Watershed Owner's Manual: In preparing the Education Element for the LMSP, the Steering Committee identified a model for its watershed owner's manual-- a primary implementation program of the Education Element. The Home*A*Syst Environmental Risk Assessment Guide (See enclosed copy) is already being used by the LMSP at public events to encourage local landowners within the watershed to improve their ownland for the benefit of the watershed through best management practices. Home*A*Syst addresses water quality protection assessment around the home, storm water management, drinking water well management, household water (septic systems and other treatment methods), managing household hazardous products, lead management, yard and garden care, safe management of liquid fuels, improving air quality in and around the home, saving energy with heating and cooling systems and recycling.

The program is a product of the same agencies which produced the model Lodi Winegrape Grower's Handbook (funded, in part, under the Phase I CalFed Grant for this Program) which is currently being implemented to encourage best management practices by vineyards within the watershed—one of the primary land uses found within the watershed.

With the implementation of the Winegrape Grower's Handbook targeting vineyards and the Home*A*Syst Program to target private and public residential and public facility landowners, the majority of land within the watershed is addressed. The preparation of a Grassland/Grazing landowner companion program will fill in the remaining land use gap which remains within the watershed.

The LMSP Steering Committee anticipates refining the existing Home*A*Syst handbook for the

Mokelumne Watershed as part of implementation of the LMSP.

Watershed Tours/Flyovers: A total of eight members of the LMSP Steering Committee have taken part in two watershed flyovers (See enclosed minutes for details). The flyovers were provided by LightHawk, a non-profit from San Francisco. The flyovers were guided by U.C. Davis professor Dr. Jeff Mount who attended both flyovers and gave a guided description of the watershed and pointed out the applicable activities which influence the Mokelumne. Both the lower Mokelumne and upper Mokelumne Rivers were viewed as part of the flyovers. Additional flyovers are planned for late Autumn and early Spring to allow as many of the Steering Committee members as possible to attend the flyovers.

Video: As a result of the flyovers, the LMSP Steering Committee recognized the importance of being able to view the entire watershed from a “big picture” perspective. The Steering Committee agreed that an aerial video of the watershed would provide the LMSP planners with an excellent reference to use during its planning activities. The aerial footage will be edited and turned into an educational video of the watershed to be used at local schools and community events to provide public outreach and education for the watershed effort. A subcommittee of the LMSP has formed and has begun writing the video script. Bids were sought to perform the work and the lowest bidder, also a local video production business located in the watershed, has been selected to shoot video footage of the watershed (both aerially and from the ground). Preparation of a subconsultant contract in compliance with Calfed guidelines is pending.

Special Events: LMSP Staff and Steering Committee volunteers will staff a booth at the annual Salmon Festival held at Lodi Lake within the watershed. The event is scheduled for October 14th. LMSP Staff plan to provide copies of the LMSP Issues and Opportunities Paper, demonstrate the concepts of a watershed using a plastic watershed model, and provide watershed evaluation materials for landowners with pointers on how to improve the watershed.

MCWA: During this quarter, LMSP Staff attended two quarterly meetings of the Mokelumne-Cosumnes Watershed Alliance. Staff provided updates of the LMSP Program at both meetings.

2. Problems and delays encountered by task.

Community Watershed Survey: During LMSP Steering Committee discussions to launch the community watershed survey, the membership unanimously agreed that a watershed-wide survey, produced as a mailer would result in minimal responses and would not provide the desired results of establishing a baseline for existing attitudes within the watershed and to inform all watershed landowners of the LMSP. Instead, the LMSP reached a consensus to follow the model of the Lodi Winegrape Grower’s Handbook. That effort established a targeted survey which focused on specific issues related to watershed improvements specific to wine grape growers and the best management practices encouraged in the handbook. That survey was distributed only to landowners participating in the wine grape grower’s implementation program.

Similarly, the LMSP Steering Committee intends to design multiple surveys which target actual LMSP

action plan participants. Surveys will be distributed before education and implementation of programs and again, after education and implementation of programs to targeted groups. In this manner, the surveys will provide the desired survey of attitudes “before” and show specific accomplishments of specific LMSP watershed education/action elements. A minor change to the program’s work plan is hereby requested to approve this refinement.

Recreation Element: During the preparation of the Recreation Element, the San Joaquin Farm Bureau Federation has raised strong concerns relative to the LMSP draft action program which encourages the addition of public access points along the Mokelumne River. Due to concerns related to private property rights and the potential for trespass and vandalism which has occurred along the river in past years, agricultural landowners see new public access as a potential threat to their properties. The LMSP Steering Committee, which includes membership from the Farm Bureau, is working with the Farm Bureau to resolve concerns related to public access to the Mokelumne River.

3. Other issues or comments.

Please note that the refinements described in item #2, above, for the community watershed survey process will require a work plan revision. Please consider this report as a formal request for approval of that amendment.

A draft subcontract to commence the watershed’s hiring of a consultant to provide video production services will be mailed under separate cover.

ATTACHMENTS

- A. Sign-in Sheets from Meetings
- B. Agendas and Meeting Minutes
- C. Home*A*Syst “Watershed Owners Manual”
- D. Draft Education Element
- E. Draft Recreation Element
- F. Draft Cultural Resources Element